# CDX-70/U70

# SERVICE MANUAL

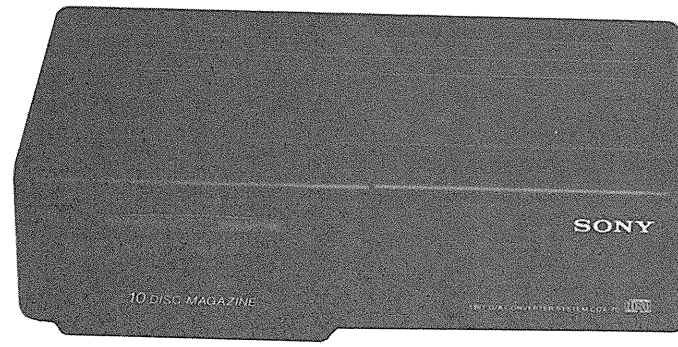
*US Model*

*CDX-U70*

*AEP Model*

*E Model*

*CDX-70*




| Model Name Using Similar Mechanism | CDX-U300 |
|---|---|

## SPECIFICATIONS

| | |
|---|---|
| System | Compact disc digital audio system |
| Frequency response | 5 – 20,000 Hz ±1 dB |
| Wow and flutter | Below measurable limit |
| Signal-to-noise ratio | 95 dB |
| Outputs | UNILINK control output (8 PIN)<br>Analogu audio output (RCA PIN) |
| Current drain | 800 mA (CD playback)<br>800 mA (during loading or ejecting a disc) |
| Operating temperature | – 10°C to 55°C |
| Dimensions | Approx. 305 × 88 × 177 mm (w/h/d)<br>not incl. projecting parts and controls |
| Weight | Approx. 2.5 kg |
| Power requirement | 12 V DC car battery (negative ground) |
| Supplied accessories | Disc magazine (1)<br>Mounting hardware (1 set)<br>UNILINK cable (1)<br>RCA PIN cord (1) |

Design and specifications subject to change without notice.

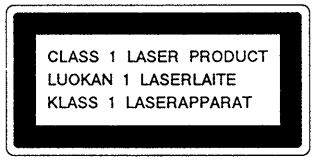
使用時は添付資料も参照のこと
Refer to the additional documents

COMPACT DISC CHANGER

SONY®

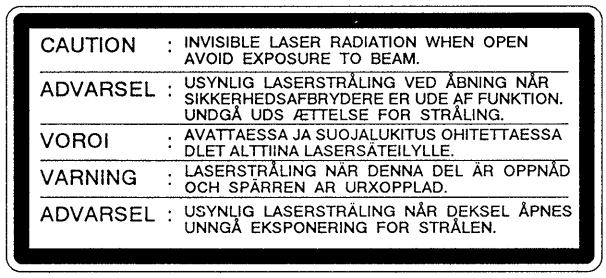
## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.




This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

The following caution label is located inside of the unit.


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VOROI : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA DLET ALTTIINA LASERSÄTEILYLLE.
VARNING : LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN AR URXOPPLAD.
ADVARSEL : USYNLIG LASERSTRÄLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

**SAFETY-RELATED COMPONENT WARNING!!**

**COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

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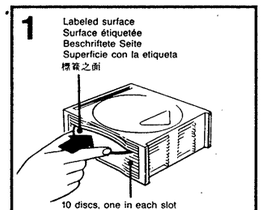
# SECTION 1
# GENERAL

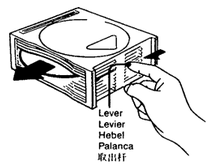
**This section is extracted from instruction manual.**

## Preparations
## Préparatifs
## Vorbereitungen
## Preparativos
## 準備

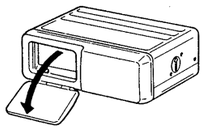
**1**



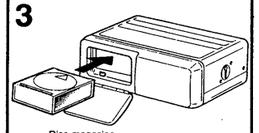

To remove
Retrait
Herausnehmen der Platte
Extracción
要取出唱片時



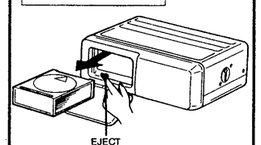

**2**



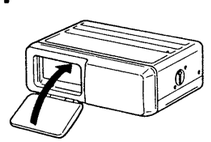
**3**




To remove
Retrait
Herausnehmen des Magazins
Extracción
要取出唱片匣時




**4**



**Use the unit with the door closed**
Otherwise, foreign matter may enter the unit, and contaminate the lenses in the player.

**Notes**
- To play an 8 cm CD, use the Sony CSA-8 adaptor (not supplied). Playing an 8 cm CD without the adaptor may damage the unit.
- Even if you connect this unit to a master unit which is equipped with the custom file function, you will not be able to use the disc memo function and the bank function with this unit.

**Utiliser cet appareil avec la porte fermée**
Sinon, des matières étrangères peuvent entrer dans l'appareil et encrasser la lentille du lecteur.

**Remarques**
- Pour la lecture de disque compact de 8 cm, utiliser l'adaptateur Sony CSA-8 (non fourni). Sinon, l'appareil risque d'être endommagé.
- Même si cet appareil est raccordé à un autre appareil équipé de la fonction de fichier personnalisé, les fonctions de mémo de disque et de banque sont inopérantes.

**Das Gerät nur mit geschlossener Tür betreiben**
Halten Sie die Tür des Gerätes stets geschlossen, damit keine Fremdkörper in das Geräteinnere gelangen und die Linse im Spieler verschmutzen können.

**Hinweise**
- Verwenden Sie zur Wiedergabe einer 8-cm-CD den Sony Adapter CSA-8 (Sonderzubehör). Wiedergabe einer 8-cm-CD ohne Adapter kann zur Beschädigung des Gerätes führen.
- Die Custom File-Funktionen Disc Memo und Bank des angeschlossenen Steuergeräts können nicht mit diesem CD-Wechsler verwendet werden.

**Emplee la unidad con la puerta cerrada**
De lo contrario, podrían introducirse materias extrañas y contaminar el objetivo del reproductor.

**Notas**
- Para reproducir un disco compacto de 8 cm, utilice el adaptador CSA-8 Sony (no suministrado). La reproducción de un disco compacto de 8 cm sin el adaptador puede dañar la unidad.
- Aunque haya conectado esta unidad a una unidad principal que disponga de función de archivo de usuario, no podrá utilizar la función de memornado de disco ni la de banco con ella.

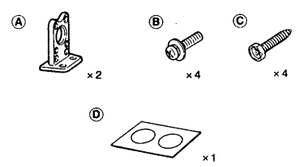
**使用時請關上唱片匣蓋門**
否則易讓異物夾雜入於機內，或使唱機的透鏡蒙上灰塵。

**註**
- 播放 8cm 唱片時，請另使用一個 Sony CSA-8 型大孔唱片固定器。播放 8cm 唱片時若不使用該唱片固定器，會致使唱機損毀。
- 即使把本機連接到一具備有能自編播放順序的唱機，本機的唱片記憶功能及音碟功能也都將失效。



## Installation
## Installation
## Installation
## Instalacion
## 安裝

***Supplied Mounting Hardware***
***Materiel de montage fourni***
***Mitgelieferte Befestigungsteile***
***Ferretería de montaje suministrada***
***附屬的安裝用道具***




### Precautions
- Choose the mounting location carefully, observing the followings:
  — The fuel tank should not be damaged by the tapping screws.
  — There should be no wire harnesses nor pipelines under the place where you are going to install the unit.
  — The spare tire, tools or other equipment in or under the trunk should not be interfered with or damaged by the screws or the unit itself.
- Be sure to use only the supplied mounting hardware for a safe and secure installation.

### Précautions
- Choisir soigneusement l'endroit de montage en observant ce qui suit.
  — Le réservoir d'essence ne doit pas être endommagé par les vis taraudeuses.
  — Il ne doit pas y avoir de faisceau de fils ou de tuyaux à l'endroit où l'on désire installer l'appareil.
  — La roue de secours, les outils ou autre équipement dans ou sous le coffre ne doivent pas être gênés ni endommagés par les vis ou l'appareil lui-même.
- Veiller à utiliser uniquement le matériel de montage fourni pour une installation correcte et sûre.

### Zur besonderen Beachtung
- Bei der Wahl des Einbauortes ist folgendes zu beachten:
  — Der Tank darf durch die Blechschrauben nicht beschädigt werden.
  — Unter der Fläche, auf die das Gerät montiert werden soll, dürfen sich keine Drähte oder Rohrleitungen befinden.
  — Ersatzreifen, Werkzeug usw. dürfen durch die Blechschrauben nicht beschädigt werden. Achten Sie auch darauf, daß die Herausnahme des Ersatzreifens, Werkzeugs usw. nicht durch das Gerät behindert wird.
- Für sicheren und stabilen Einbau verwenden Sie ausschließlich die mitgelieferten Befestigungsteile.

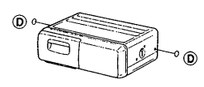
### Precauciones
- Elija cuidadosamente el lugar de montaje, teniendo en cuenta lo siguiente:
  — El depósito de combustible no deberá dañarse con los tornillos roscachapa.
  — No deberá haber mazos de conductores ni tubos debajo del lugar donde vaya a instalar la unidad.
  — La rueda de repuesto, las herramientas, u otros equipos situados dentro o debajo del portaequipajes no deberán verse interferidos ni dañados por los tornillos ni por la propia unidad.
- Para realizar una instalación segura, emplee solamente la ferretería de montaje suministrada.

### 使用前須知事項
- 安裝以前請參照下列事項，仔細選擇安裝位置：
  －不可讓自攻螺釘傷及油箱。
  －唱機不可安裝在電線配線或瓦斯管上面。
  －唱機安裝位置或螺釘等不可妨礙或觸及備用輪胎、汽車修理工具或其他汽車零件。
- 為保安全及牢固起見，安裝時請使用附屬的安裝用道具。

### How to Install the Unit
### Installation de l'appareil
### Installation des Gerätes
### Instalación de la unidad
### 如何安裝

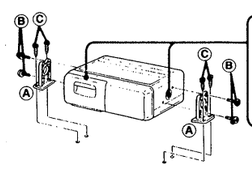
***Horizontal installation***
***Installation de l'appareil à l'horizontale***
***Horizontaler Einbau***
***Instalación horizontal***
***水平裝法***

**1**




Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.
Die nicht verwendeten Löcher abdecken.
Cubra los orificios no empleados.
貼住不用的插孔。

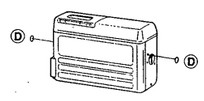
**2**




Align with the marked position.
Aligner sur le repère.
Auf die richtige Position stellen.
Alinee con la posición marcada.
對齊標記點。

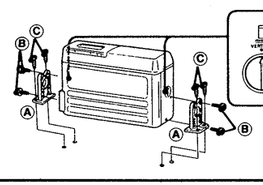
***Vertical installation***
***Installation verticale***
***Vertikaler Einbau***
***Instalación vertical***
***垂直裝法***

**1**




Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.
Die nicht verwendeten Löcher abdecken.
Cubra los orificios no empleados.
貼住不用的插孔。

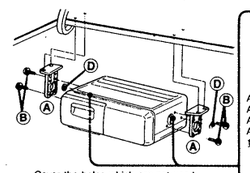
**2**




Align with the marked position.
Aligner sur le repère.
Auf die richtige Position stellen.
Alinee con la posición marcada.
對齊標記點。

***Suspended installation***
***Installation suspendue***
***Hängender Einbau***
***Instalación suspendida***
***懸掛裝法***

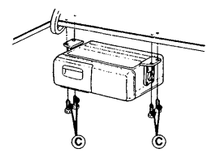
**1**




Align with the marked position.
Aligner sur le repère.
Auf die richtige Position stellen.
Alinee con la posición marcada.
對齊標記點。

Cover the holes which are not used.
Recouvrir les orifices qui ne sont pas utilisés.
Die nicht verwendeten Löcher abdecken.
Cubra los orificios no empleados.
貼住不用的插孔。

**2**




When the unit is to be installed under the rear tray etc. in the trunk room, make sure that the following provisions are made.
- Choose the mounting location carefully so that the unit can be installed horizontally.
- Make sure that the unit does not hinder the movement of torsion bar spring etc. of the trunk lid.

Si l'appareil doit être installé sous la plage arrière dans le coffre, par exemple, prenez d'abord les précautions suivantes.
- Bien choisir l'emplacement pour pouvoir installer l'appareil à l'horizontale.
- Vérifier que l'appareil ne gêne pas le mouvement du ressort du capot, entre autres.

Bei der hängenden Montage unter der Heckablage oder im Kofferraum beachten Sie folgende Vorsichtsmaßnahmen:
- Wählen Sie den Befestigungsort sorgfältig so aus, daß die Einheit horizontal montiert werden kann.
- Achten Sie darauf, daß die Einheit die Federn, den Arm usw. des Kofferraumdeckels nicht behindert.

Cuando desee instalar la unidad debajo de la bandeja trasera, etc., en el portaequipajes, tenga en cuenta lo siguiente:
- Elija cuidadosamente el lugar de montaje de forma que la unidad pueda instalarse horizontalmente.
- Cerciórese de que la unidad no impida el movimiento del resorte de la barra de torsión, etc., de la tapa del portaequipajes.

若要把本機安裝在車後行李箱的後支架上等處的話，請注意下列事項：
- 安裝時須使本機保持水平狀態。
- 不可讓本機妨礙了行李箱蓋的扭轉杆彈簧。

## Connections
## Connexions
## Anschluß
## Conexiones
## 電線之連接

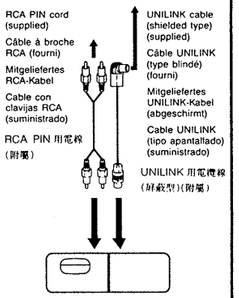
Be sure to connect the L-angle to a Sony UNILINK compatible car audio.

Ne pas oublier de brancher la prise en L sur la chaîne audio de la voiture, compatible Sony UNILINK.

Darauf achten, den L-förmigen Stecker an ein Sony UNILINK-kompatibles Auto-Stereogerät anzuschließen.

Cerciórese de conectar la clavija en forma de L a un sistema de audio del automóvil compatible con UNILINK Sony.

務必連接 L 角至和 Sony UNILINK 系統有共容性的汽車音響裝置。




For details, refer to the Installation/Connection manual of each product.

Pour plus de détails, se reporter au mode d'emploi pour l'installation/connexion de chaque produit.

Einzelheiten entnehmen Sie der Installations/Anschluß-Anleitung des betreffenden Geräts.

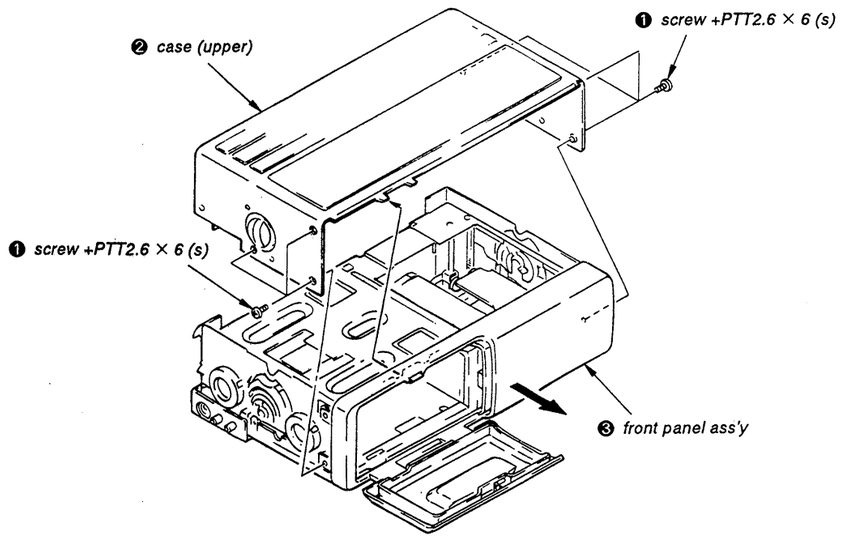
Con respecto a los detalles, consulte el manual de Instalación/Conexiones de cada producto.

詳細請參看各個機件的安裝/連接使用說明書。

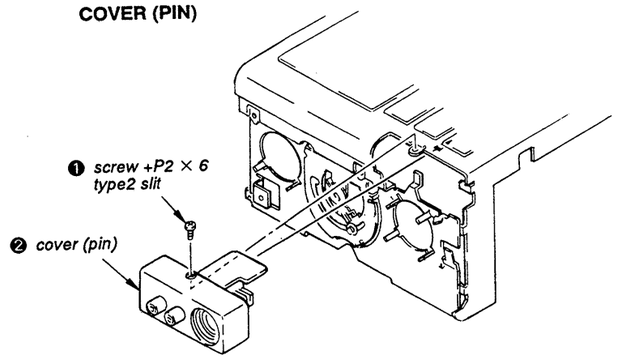
# SECTION 2
# DISASSEMBLY

**Note:** Follow the disassembly procedure in the numerical order given.

### CASE (UPPER) AND FRONT PANEL ASS'Y

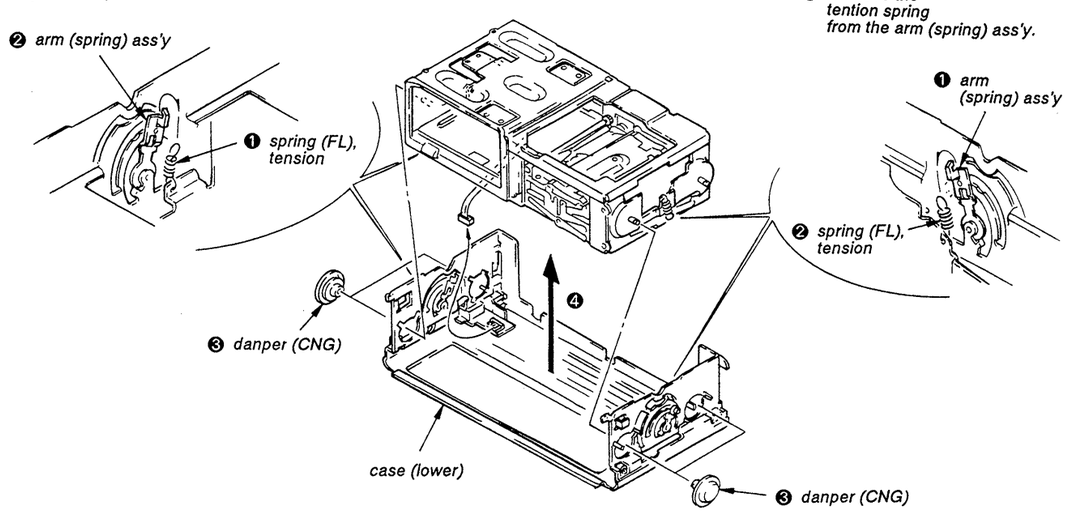



### COVER (PIN)

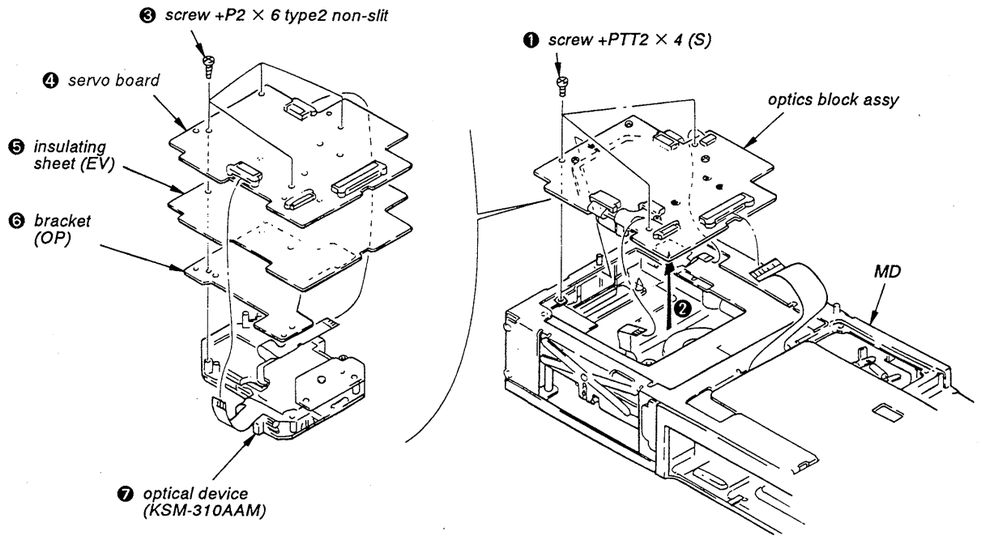




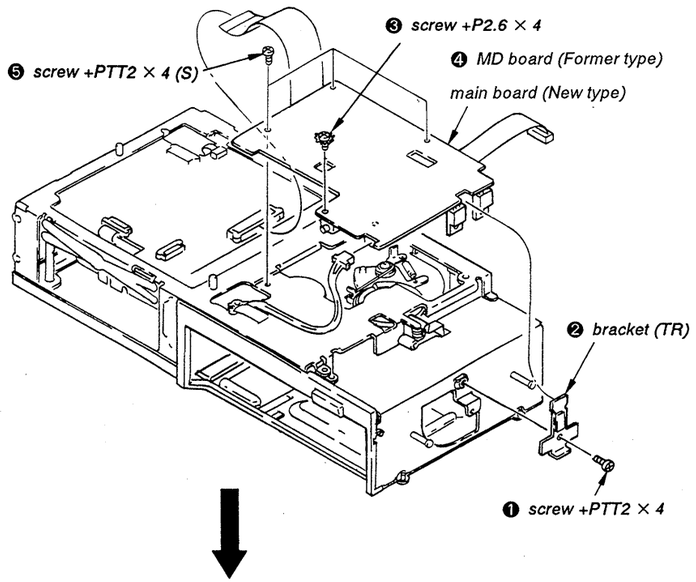

### CASE (LOWER)



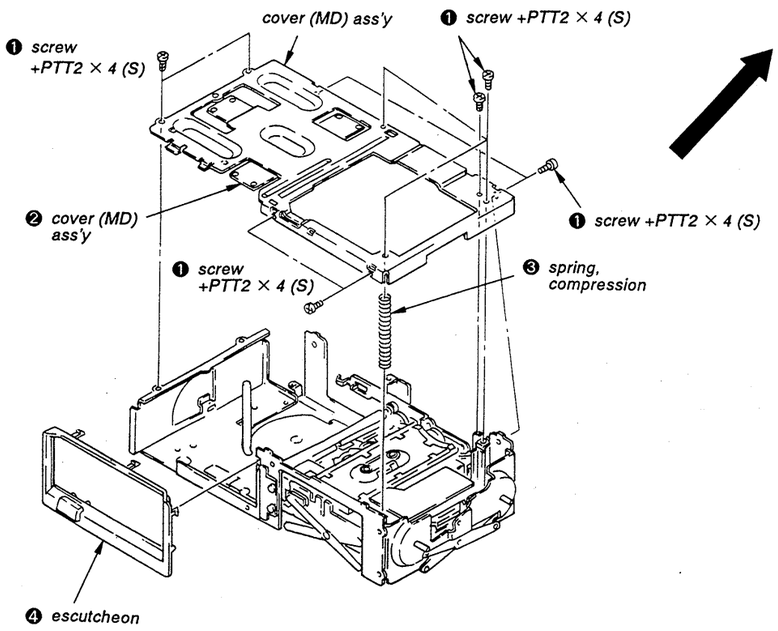

### SERVO BOARD AND OPTICAL DEVICE (KSM-310AAM)



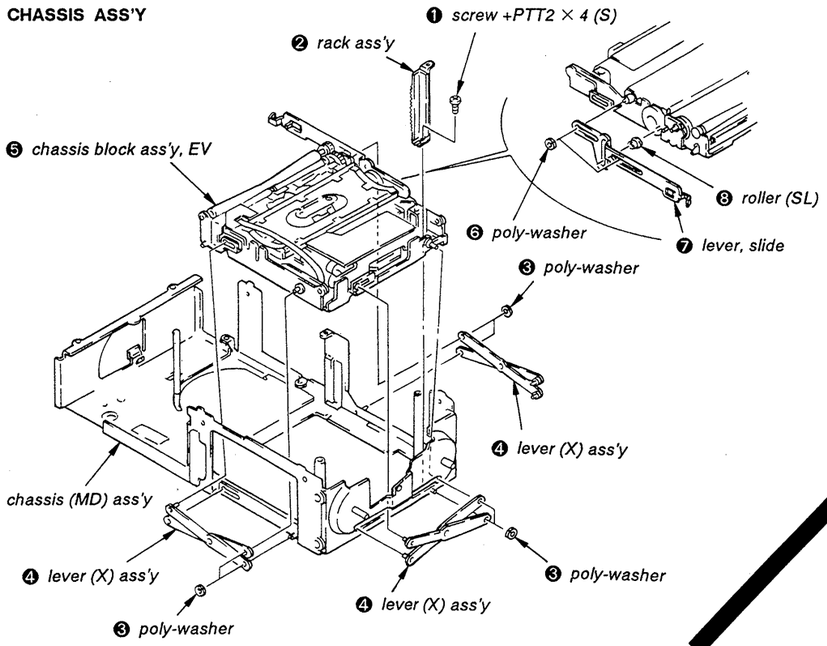
## MD BOARD



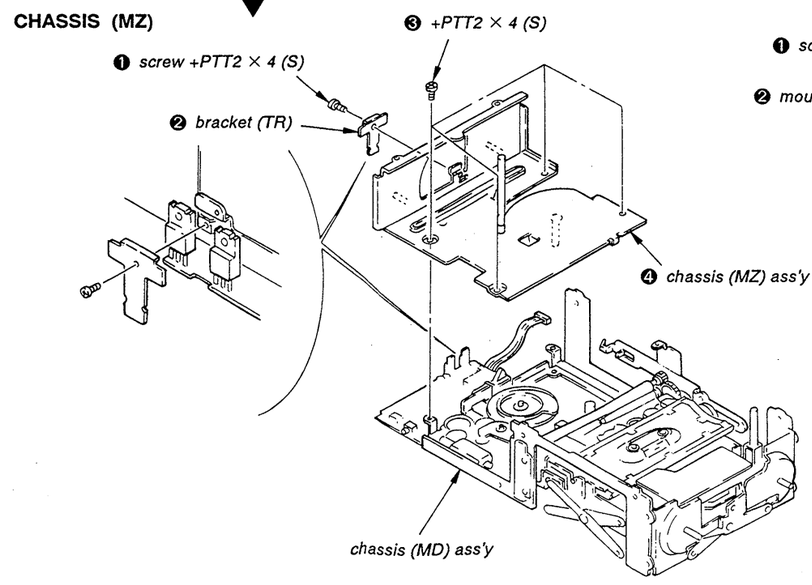

## COVER (MD) ASS'Y AND ESCUTCHEON


cover (MD) ass'y
❶ screw +PTT2 × 4 (S)
❶ screw +PTT2 × 4 (S)
❷ cover (MD) ass'y
❶ screw +PTT2 × 4 (S)
❶ screw +PTT2 × 4 (S)
❸ spring, compression
❹ escutcheon

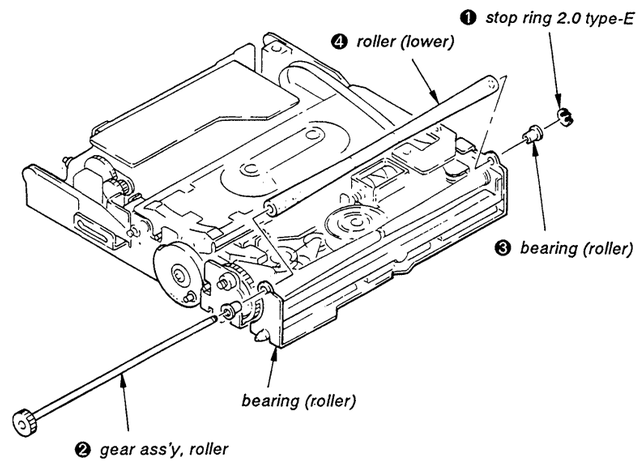
## EV CHASSIS ASS'Y



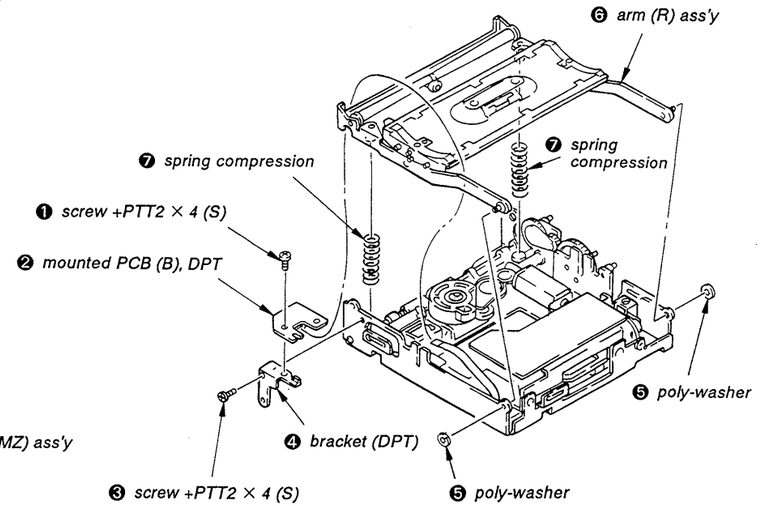

## CHASSIS (MZ)




## ROLLER (LOWER)




## DPT BOARD AND ARM (R) ASS'Y



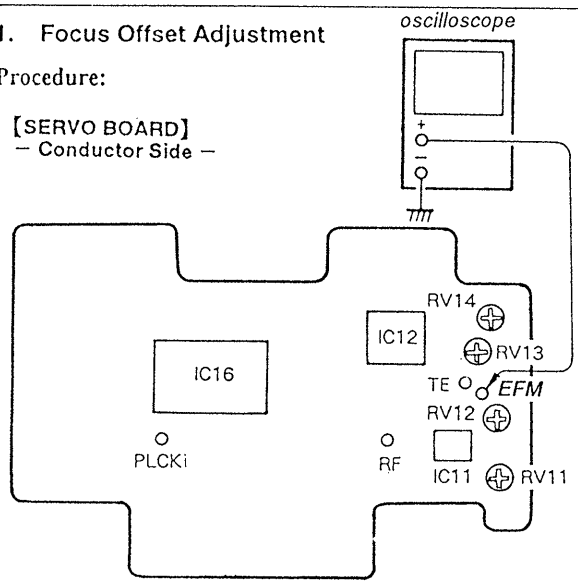
# SECTION 3
# ELECTRICAL ADJUSTMENTS

1. Perform adjustments as given.
2. Be sure to use the disc "YEDS-18" parts code: 3-702-101-01, but only when indicated.
3. Power supply voltage: DC14.4 V (more than 3A).

## 1. Focus Offset Adjustment

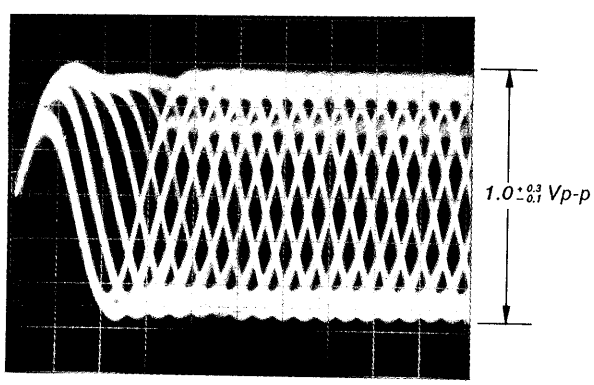
Procedure:

[SERVO BOARD]
– Conductor Side –




1. Connect the oscilloscope to SERVO board test point EFM.
2. Put the set into play mode by loading the disc.
3. Adjust (SERVO board) RV12 so that the oscilloscope. Waveform eye pattern is good.
   (A good eye pattern means that the diamond shape (◇) in the center of the oscilloscope can be clearly distinguished.)

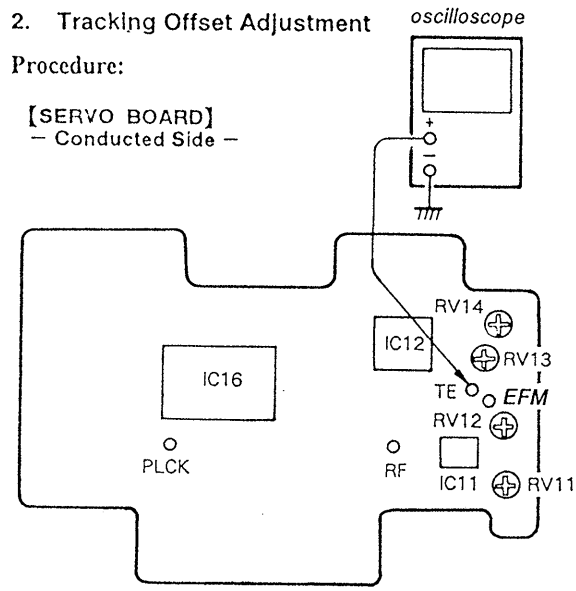
*Volt/Div: 200 mV*
*Time/Div: 0.5 µSec*




## 2. Tracking Offset Adjustment

Procedure:

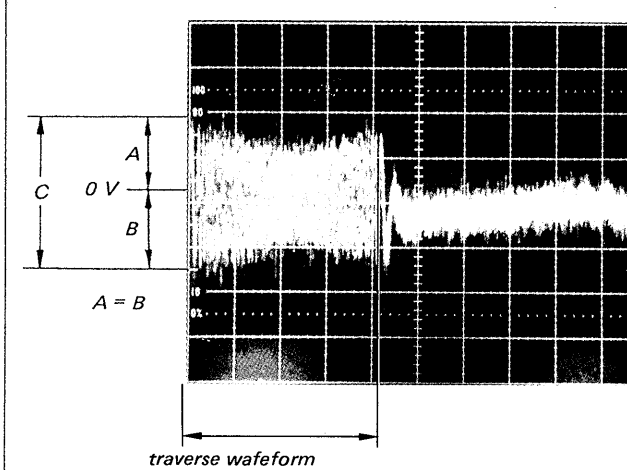
[SERVO BOARD]
– Conducted Side –




1. Connect the oscilloscope to SERVO board test point TE, pin ① of IC11.
2. Put the set into play mode by loading the disc.
3. Press the ⏮ AMS ⏭ button, then, check the traverse waveform*.
4. Adjust RV11 (SERVO board) so that oscilloscope reading is symmetrical in relation to 0 V.

*Traverse waveform: This is the tracking error waveform appears when crossing the track.

*Volt/Div: 0.5 V*
*Time Div: 2 mSec*
*Center 0 V*



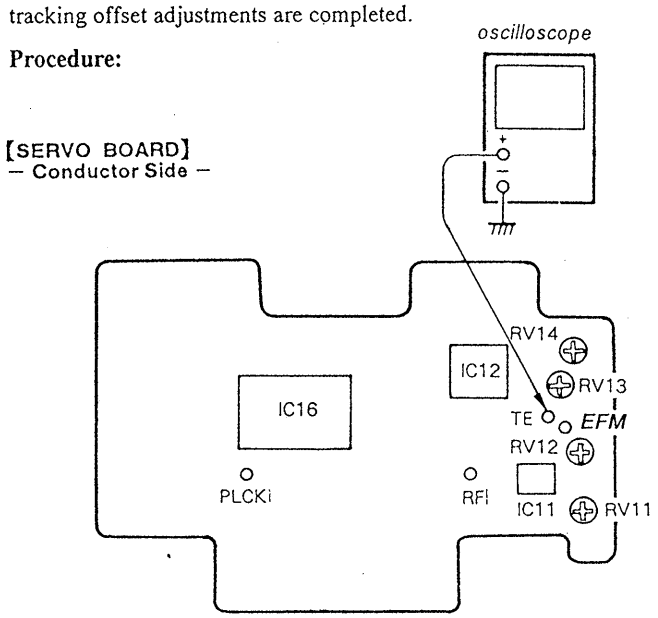
### 3. Tracking Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV13

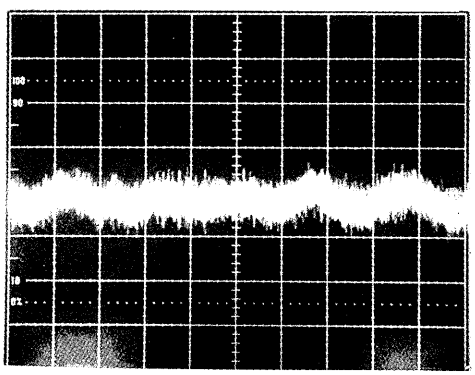
This adjustment should be performed after focus offset and tracking offset adjustments are completed.

**Procedure:**

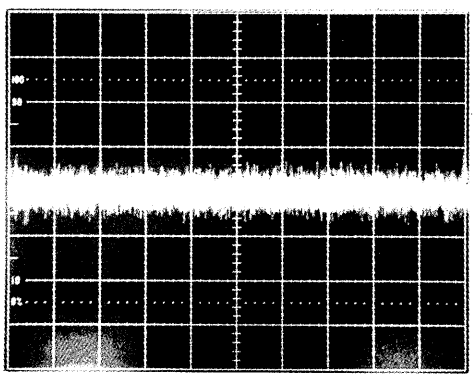



1. Connect the oscilloscope to SERVO board test point TE.
2. Put the set into play mode by loading the disc.
3. Turn SERVO board RV13 from clockwise stop, then check the oscilloscope waveform.
   Fix RV13 at the position where the wavwaveform disappears.

*Volt/Div: 0.5 V*
*Time/Div: 2 mSec*

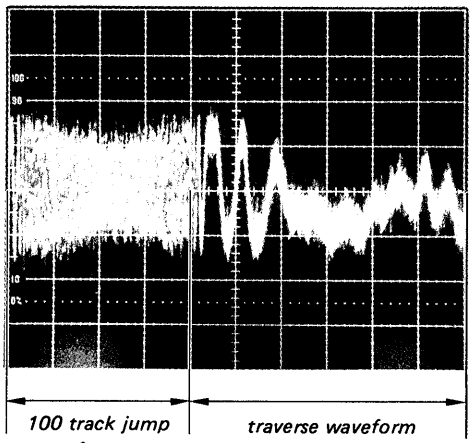


*waveform when the wave appears*

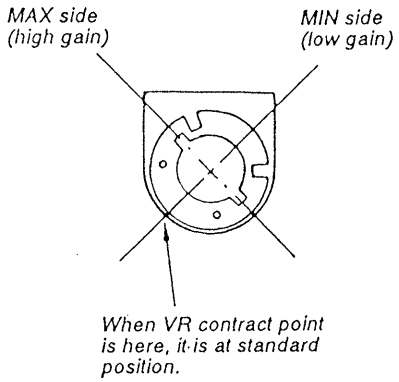


*waveform when the wave disappeared*

- **When gain lowered...**
  When selecting by pressing ⏮ AMS ⏭ button, brake application is poor because of low tracking gain. Threfore, the traverse waveform appears after the 100 track jump waveform, then the selection will be located slowly.




- **When gain is highered...**
  Operation noise is heard due to a scratch or dust, then operation will be instability.




*RV13 standard position*

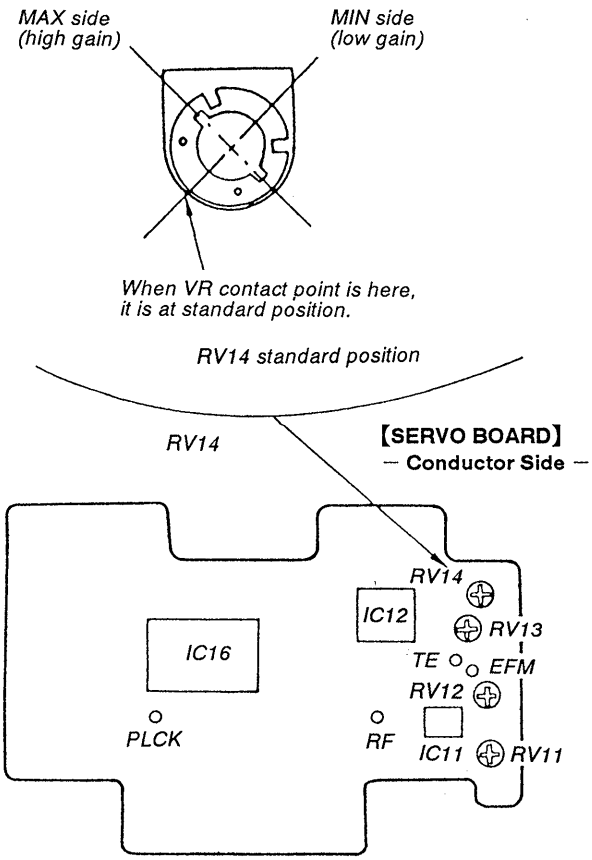
## 4. Focus Gain Adjustment (coarse adjustment)

This adjustment is to be performed when replacing the following parts.

- Optical Pick-up Block
- RV14

**Procedure:**

1. Set RV14 (SERVO board) to the standard position.
2. Check that there is not an abnormal amount of operation noise (white noise) from the 2-axis devise. If there is, turn RV14 slightly clockwise.

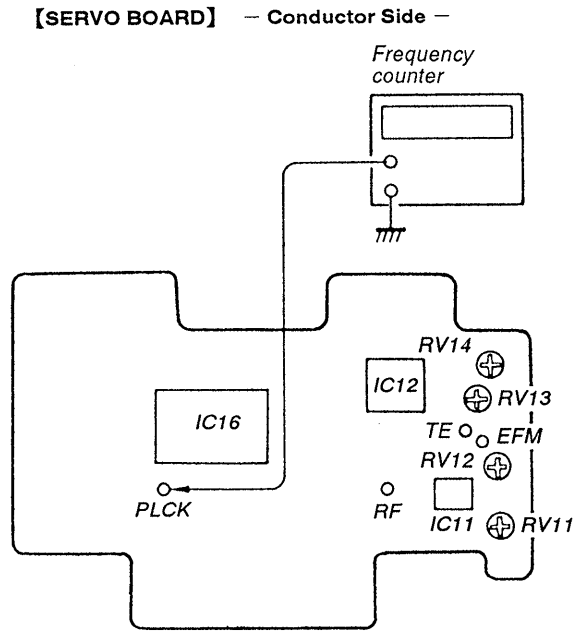



- **When gain is highered...**
  The set does not play because of no focus operation.
- **When gain is highered...**
  Operation noise is heard due to a scratch or a dust, then operation will be unstable.

## 5. PLL Freerun Frequency Adjustment

**Procedure:**

1. Connect frequency counter to Pin ㊶ of IC16 (Test point PLCK).
2. Confirm the frequency is 4.3218 MHz ± 20 kHz.



# SECTION 4
# DIAGRAMS

## 4-1. IC601 SYSTEM CONTROL MICROCOMPUTER (μPD75116GF-F42-3BE) PORT FUNCTION DESCRIPTION

| Pin No. | Port Name | I/O | Port Function |
|---|---|---|---|
| 1 | APC | O | Laser ON/OFF L: Laser ON |
| 2 | CD RESET | O | Reset for Servo System L: Reset |
| 3 | CD ON | O | Power ON/OFF for Servo System H: ON |
| 4 | – | – | |
| 5 | – | – | |
| 6 | – | – | |
| 7 | RESET | I | Reset for IC601 L: Reset |
| 8 | OSC | – | 4.19 MHz self-excited oscillation |
| 9 | OSC | – | |
| 10 | PROM DATA | I/O | E²PROM Data, I/O |
| 11 | PROM CLOCK | O | Clock on writing to or reading from E²PROM |
| 12 | – | O | |
| 13 | ROM INIT | I | Reset by setting L, initialize E²PROM |
| 14 | – | – | |
| 15 | – | – | |
| 16 | – | – | |
| 17 | – | – | |
| 18 | AUDIO MUTE | O | Mute audio output H: Mute |
| 19 | ELEVATOR ON | O | Elevator up/down, Power ON/OFF for sensor H: ON |
| 20 | M | O | Motor M601 control |
| 21 | M | O | |
| 22 | PLG | O | H: Apply power voltage to plunger |
| 23 | MC | O | M501, M502 motor control |
| 24 | MB | O | |
| 25 | MA | O | |
| 26 | VSS | – | |
| 27 | EJ KEY | I | H: EJECT key is pushed |
| 28 | PST | I | H: Magazine is locked |
| 29 | EHS | I | Detects height of elevator |
| 30 | SCOR | I | SCOR of DSP |
| 31 | – | I | |
| 32 | A/OUT | I | L: There is AUDIO OUT |
| 33 | EE PROM | I | L: There is E²PROM |
| 34 | D/OUT | I | H: There is not DIGITAL OUT |
| 35 | BUSON | I | L: Communicates with controller |
| 36 | – | – | |
| 37 | – | – | |
| 38 | – | – | |

| Pin No. | Port name | I/O | Port Function |
|---|---|---|---|
| 39 | LINK OFF | O | Not used |
| 40 | REQ | O | Request serial communication |
| 41 | SI | I | Data input of serial communication |
| 42 | SO | O | Data output of serial communication |
| 43 | SCK | I | Clock for serial communication |
| 44 | BACK UP | I | Detects BACK UP H: BACK UP ON |
| 45 | EJT | I | EJT sensor input |
| 46 | LOT | I | LOT sensor input |
| 47 | HOME | I | HOME sensor input L: Location 1 |
| 48 | TOP | I | TOP sensor input |
| 49 | DPT | I | L: During disc is passing |
| 50 | DOE | I | L: Disc is upon the pick-up |
| 51 | HOT | I | Not used |
| 52 | CES | I | L: Disc chucking is completed |
| 53 | SUBQ | I | SUBQ of DSP |
| 54 | GFS | I | GFS of DSP |
| 55 | FOK | I | FOK of DSP |
| 56 | SENSE | I | SENSE of DSP |
| 57 | VDD | – | |
| 58 | – | – | |
| 59 | CD CLOCK | O | Control Servo System |
| 60 | CD LATCH | O | |
| 61 | CD DATA | O | |
| 62 | D MUTE | O | Not used |
| 63 | SQCK | O | SQCK of DSP |
| 64 | EMPH | O | H: During the emphasized disc is playing |

## 4-2. IC501 (BA6247N) MOTOR DRIVER IC OPERATION

### (DRIVER BOARD)

The elevator motor connected between Pin ② and Pin ⑩ of IC501 is as M501, and the disc loading/saving motor connected between Pin ③ and Pin ⑩ of IC501 is as M502.

When the IC port logic is Pin ② > Pin ⑩, Pin ③ > Pin ⑩, the rotating direction of M501 and M502 becomes normal.

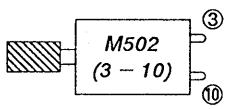
### ROTATION TRUTH TABLE

① When MB = MC, both M501 and M502 are stop. (MA value is free.)

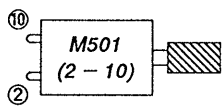
② When MB ≠ MC:

| MA Pin ⑥ | MB Pin ⑤ | MC Pin ④ | M501 | M502 | Motor Terminal | | | Operation |
|---|---|---|---|---|---|---|---|---|
| | | | | | ② | ③ | ⑩ | |
| L | L | H | Reverse | Stop | L | OPEN | H | Elevator UP |
| H | L | H | Normal | Stop | H | OPEN | L | Elevator DOWN |
| L | H | L | Stop | Reverse | OPEN | L | H | Disc load |
| H | H | L | Stop | Normal | OPEN | H | L | Disc save |

*Disc in/out*

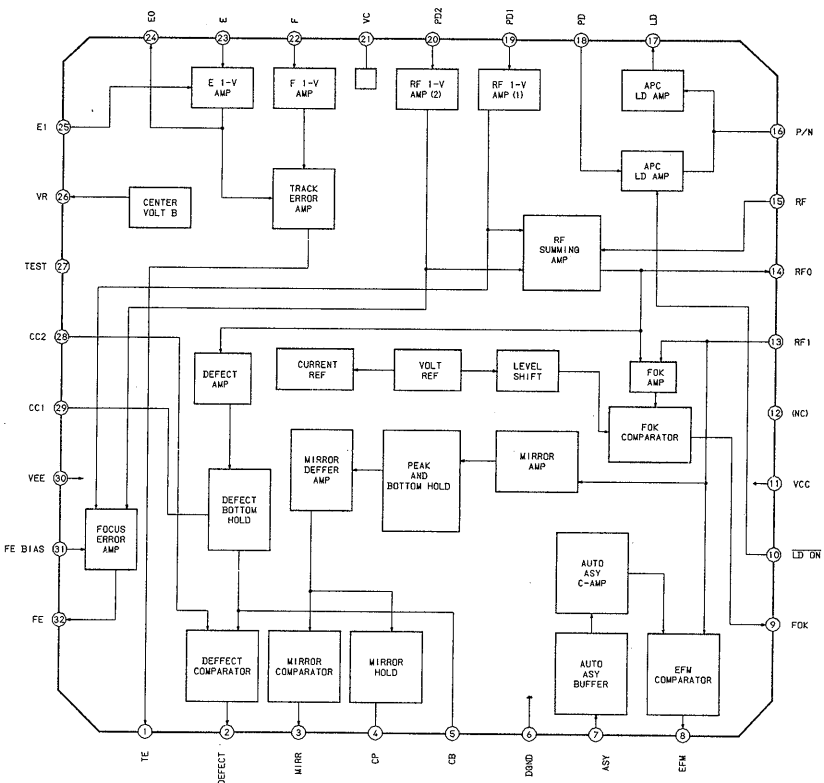



*Elevator up/down*

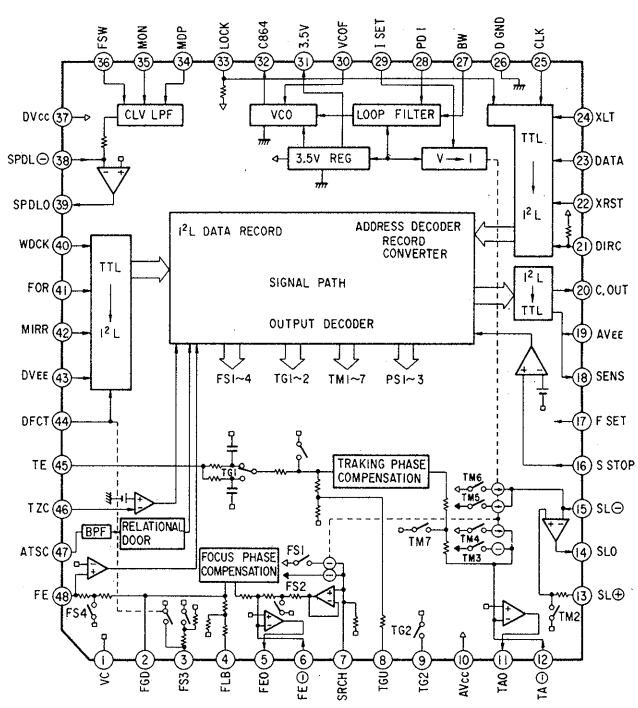



- **IC Block Diagrams**

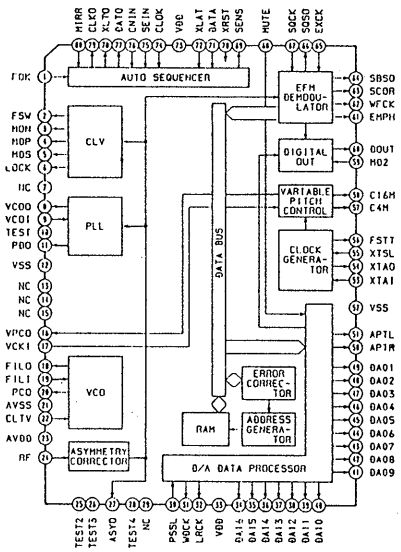
**IC11 CXA1081Q**



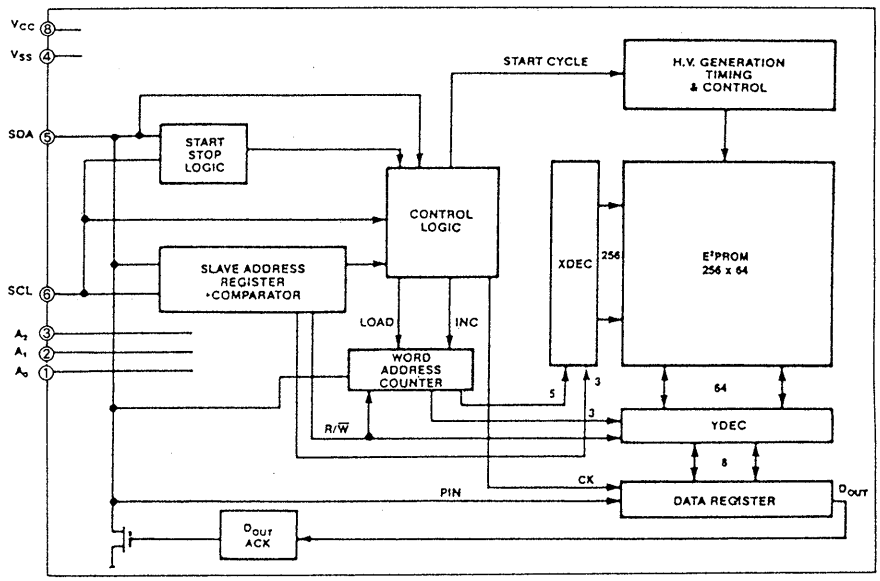

**IC12 CXA1182Q-Z**



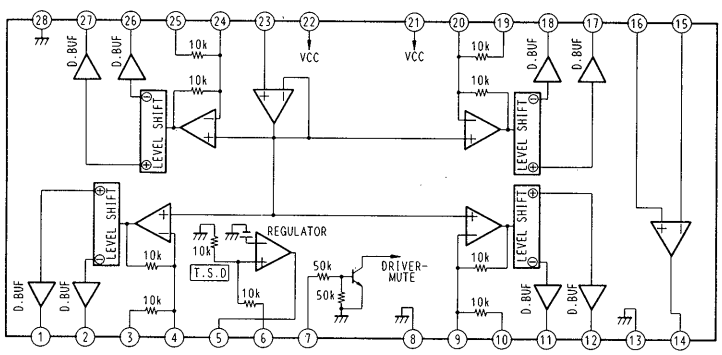
## IC13 CXD2500BQ



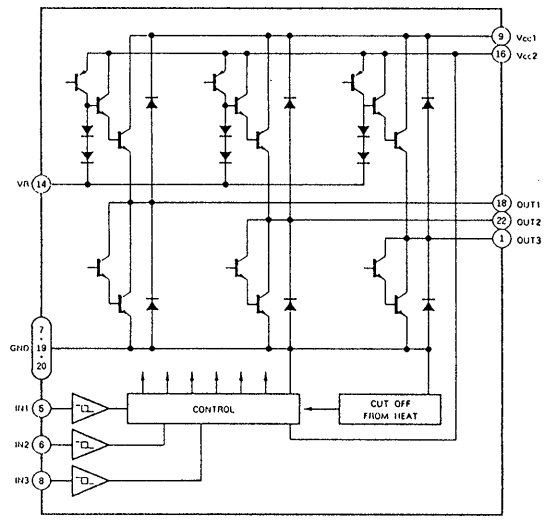

## IC602 XC24C16SI



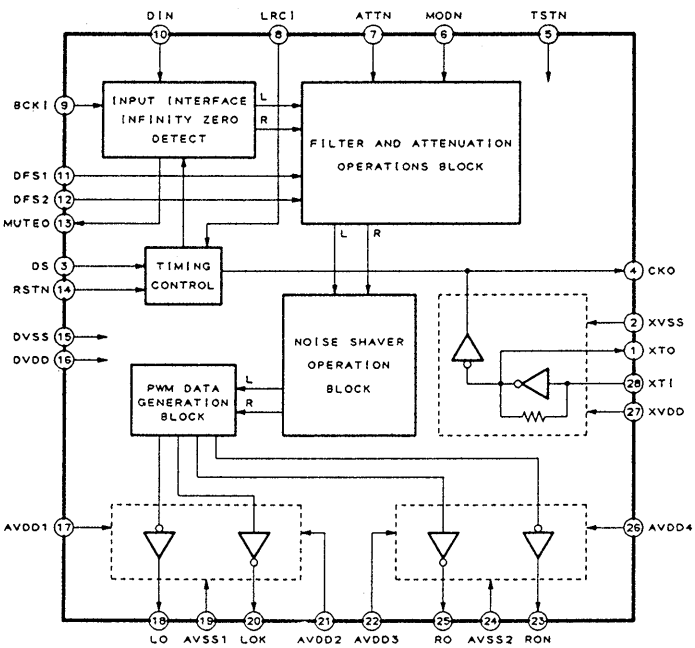

## IC14 BA6296FP



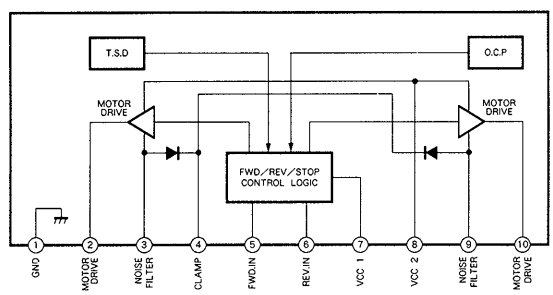

## IC501 BA6247FP



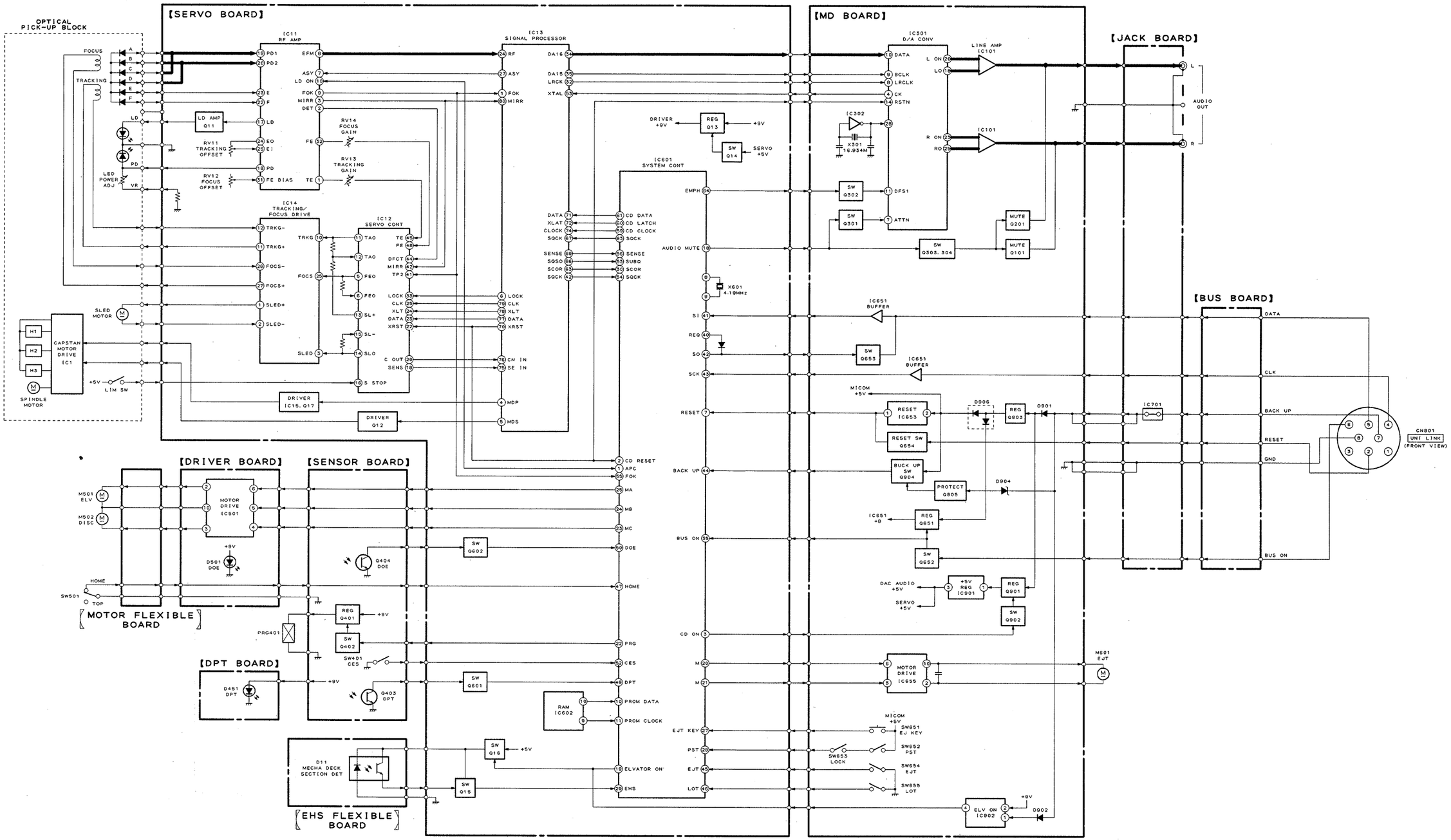

## IC301 SM5871AS


INPUT INTERFACE INFINITY ZERO DETECT
FILTER AND ATTENUATION OPERATIONS BLOCK
TIMING CONTROL
NOISE SHAVER OPERATION BLOCK
PWM DATA GENERATION BLOCK

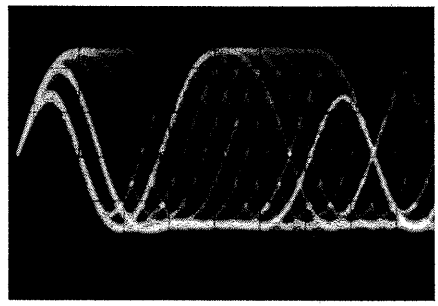
## IC652 LB1641



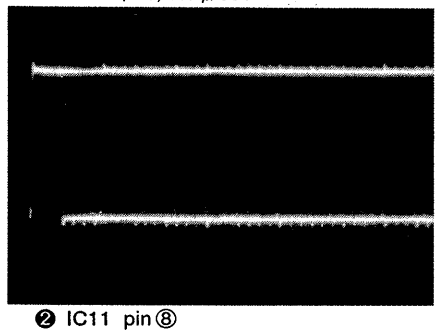
## 4-3. BLOCK DIAGRAM



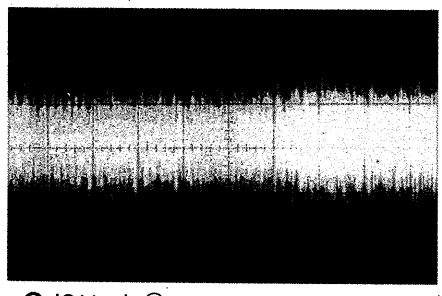
• **Waveforms**



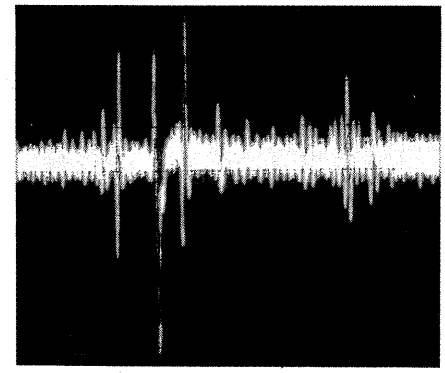
❶ TP RF
0.2 V/div, 0.5 μsec



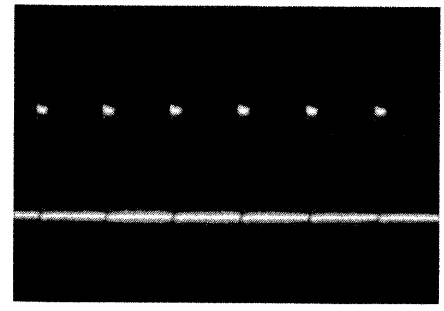
❷ IC11 pin ⑧
1 V, 1 μsec



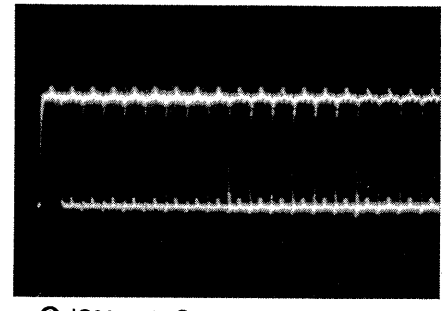
❸ IC11 pin ①
0.2 Vp-p, 5 msec



❹ IC11 pin ㉜
0.1 Vp-p, 5 msec



❺ IC13 pin ④
2 Vp-p, 5 μsec



❻ IC301 pin ⑩
2 Vp-p, 1 μsec

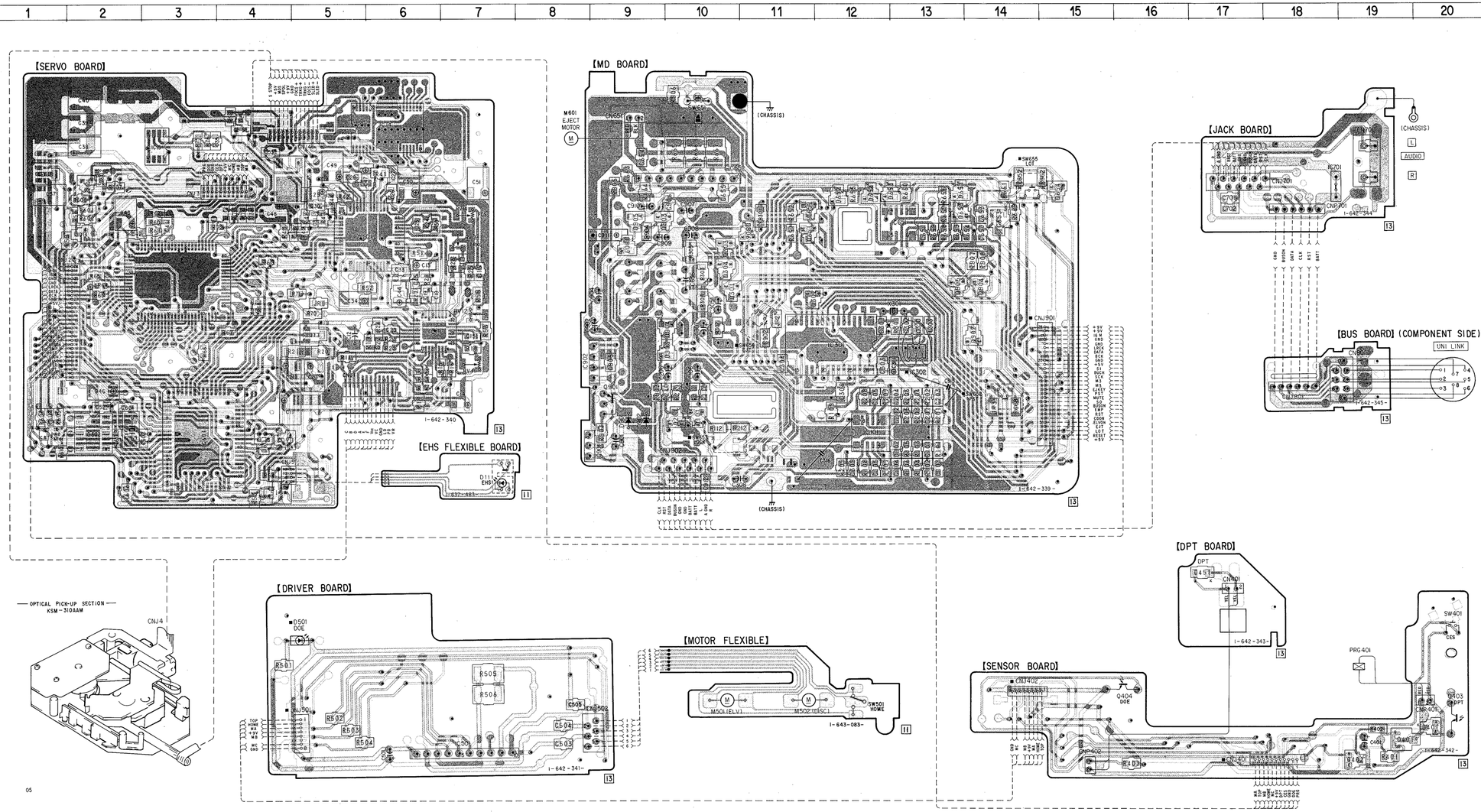
## 4-4. FORMER TYPE PRINTED WIRING BOARDS

• See page 32 for Semiconductor Lead Layouts.

• Semiconductor Location

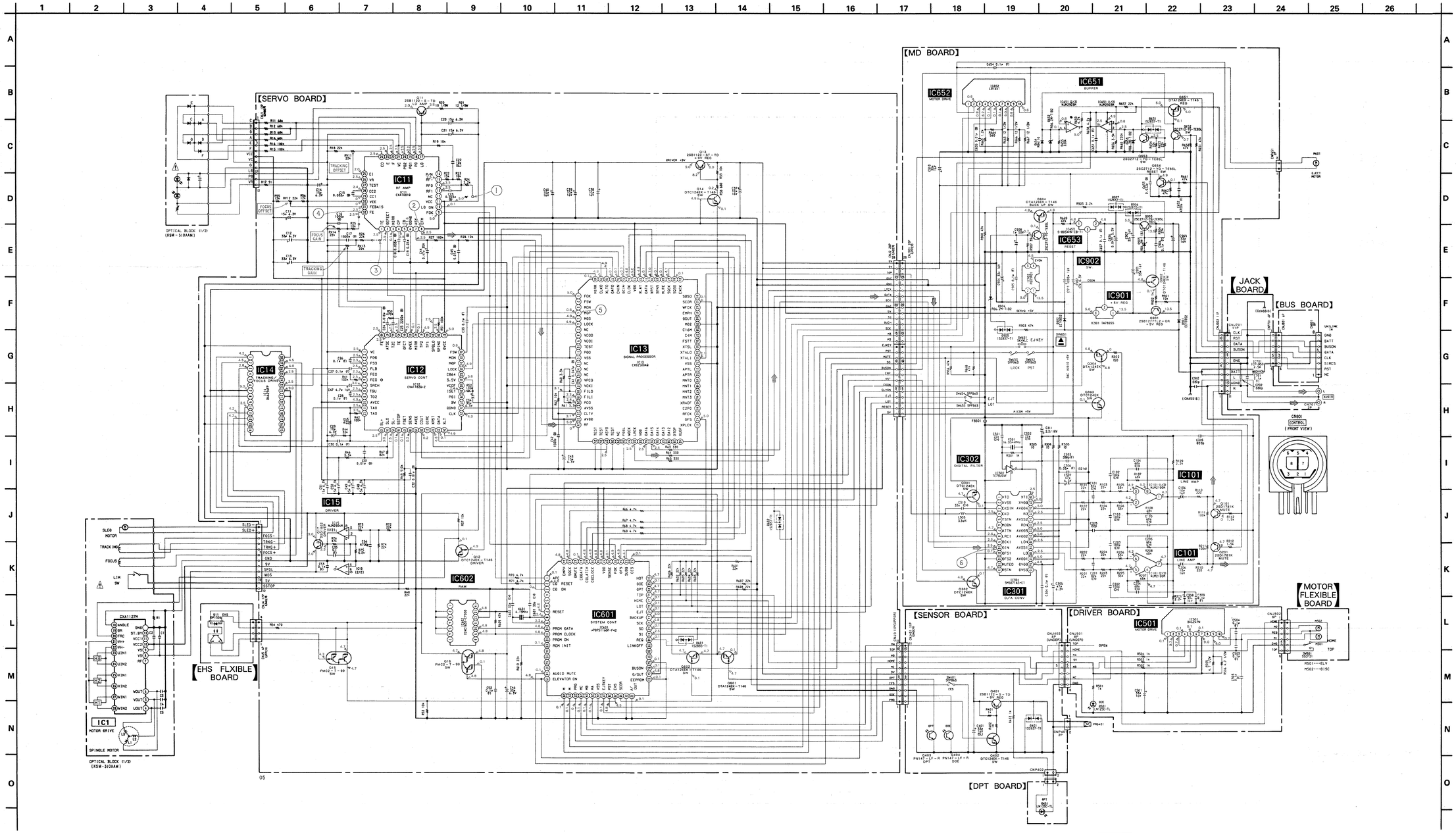
| Ref. No. | Location |
|---|---|
| D11 | G-7 |
| D301 | E-10 |
| D302 | F-11 |
| D303 | F-11 |
| D401 | J-20 |
| D451 | H-17 |
| D501 | I-5 |
| D601 | F-4 |
| D602 | F-4 |
| D651 | C-13 |
| D652 | C-12 |
| D653 | C-12 |
| D654 | C-12 |
| D901 | F-9 |
| D902 | F-9 |
| D903 | E-9 |
| D904 | E-9 |
| D905 | C-9 |
| D906 | C-11 |
| D907 | D-9 |
| IC11 | E-6 |
| IC12 | C-6 |
| IC13 | D-3 |
| IC14 | B-6 |
| IC15 | B-3 |
| IC101 | F-12 |
| IC301 | E-12 |
| IC302 | E-13 |
| IC501 | J-7 |
| IC601 | F-3 |
| IC602 | F-2 |
| IC651 | C-13 |
| IC652 | C-10 |
| IC653 | C-14 |
| IC901 | F-8 |
| IC902 | E-9 |
| Q11 | E-5 |
| Q12 | B-4 |
| Q13 | C-1 |
| Q14 | C-2 |
| Q15 | G-4 |
| Q16 | F-1 |
| Q17 | C-4 |
| Q101 | F-10 |
| Q201 | F-10 |
| Q301 | D-10 |
| Q302 | D-11 |
| Q303 | D-10 |
| Q304 | D-10 |
| Q401 | J-19 |
| Q402 | K-19 |
| Q403 | J-20 |
| Q404 | J-16 |
| Q601 | C-2 |
| Q602 | C-2 |
| Q651 | C-11 |
| Q652 | C-11 |
| Q653 | C-13 |
| Q654 | C-15 |
| Q901 | F-9 |
| Q902 | E-14 |
| Q903 | C-9 |
| Q904 | D-14 |
| Q905 | D-13 |

Note:
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▨ : Pattern of the rear side.



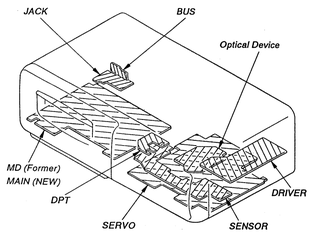
## 4-5. FORMER TYPE SCHEMATIC DIAGRAM

• See page 14 for IC Block Diagrams, page 17 for Waveforms.




05

### • Circuit Boards Location

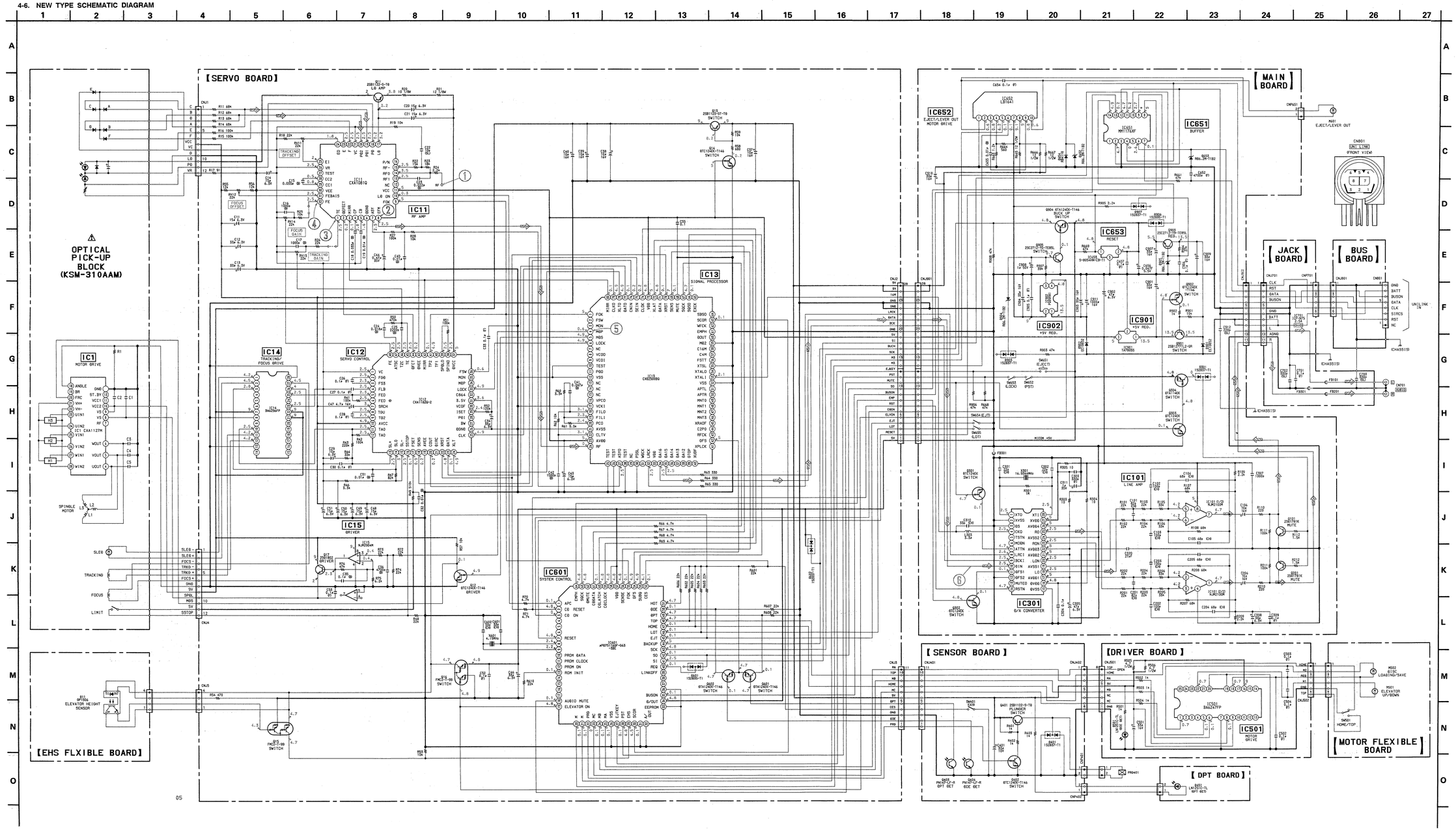



**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬▬ : B + Line.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from CNP1.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD




**Note:**

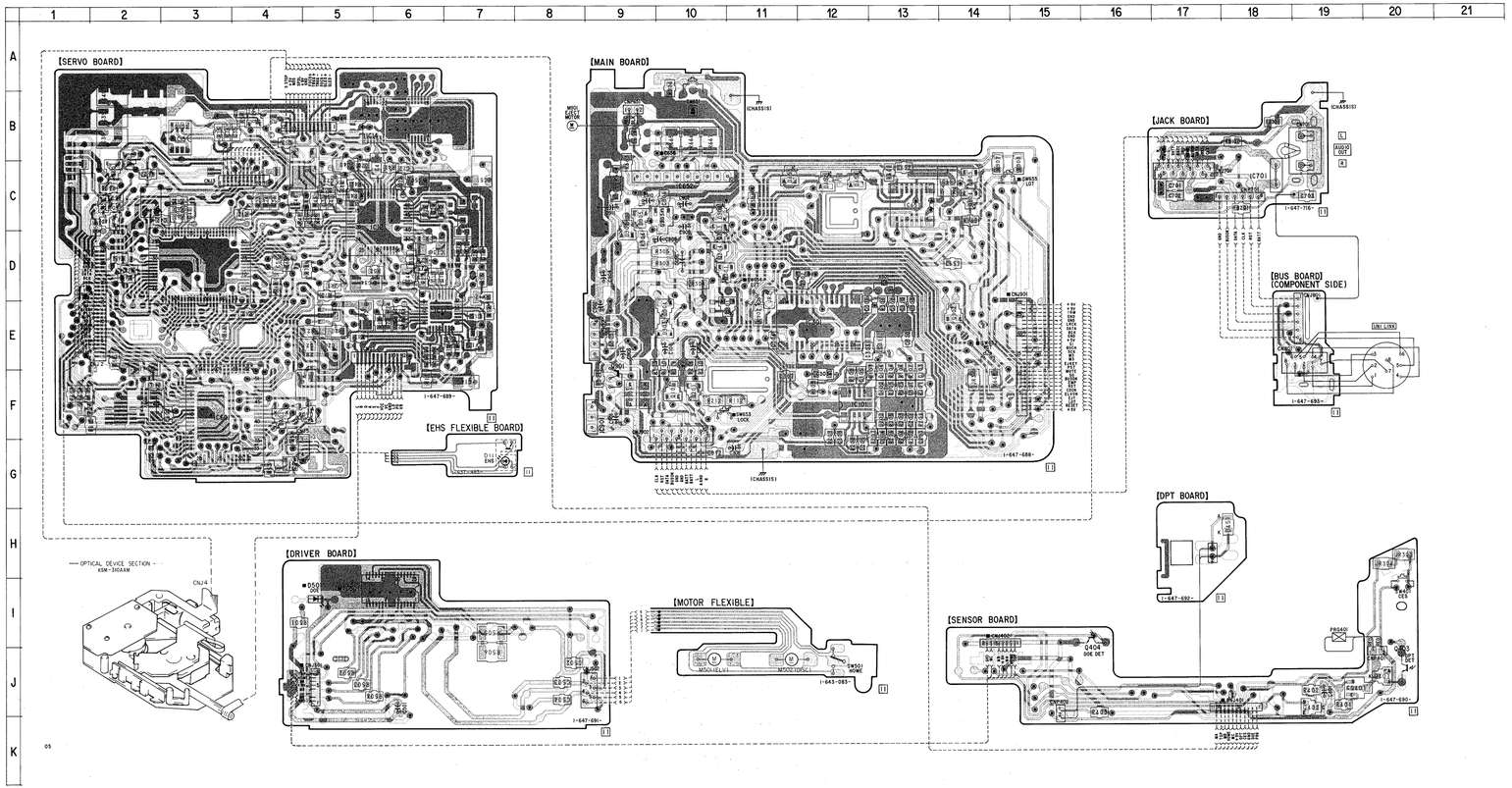
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- : B + Line.
- : panel designation.
- : adjustment for repair.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from CNP1.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (10 MΩ/V).
  Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : CD

NEW

## 4-7. NEW TYPE PRINTED WIRING BOARDS




### • Semiconductor Location

| Ref. No. | Location |
|---|---|
| D11 | G-7 |
| D301 | E-10 |
| D401 | J-20 |
| D451 | H-18 |
| D501 | I-5 |
| D601 | F-4 |
| D602 | F-4 |
| D652 | C-12 |
| D653 | C-11 |
| D654 | C-12 |
| D901 | F-9 |
| D902 | F-9 |
| D903 | E-10 |
| D904 | E-10 |
| D905 | C-9 |
| D906 | C-10 |
| D907 | D-9 |
| IC11 | E-6 |
| IC12 | C-6 |
| IC13 | D-3 |
| IC14 | B-6 |
| IC15 | B-3 |
| IC101 | F-12 |
| IC301 | E-12 |
| IC501 | I-6 |
| IC601 | F-3 |
| IC651 | C-13 |
| IC652 | C-10 |
| IC653 | C-14 |
| IC901 | F-9 |
| IC902 | E-9 |
| IC701 | C-18 |
| Q11 | E-5 |
| Q12 | B-4 |
| Q13 | C-1 |
| Q14 | C-2 |
| Q15 | G-4 |
| Q16 | F-1 |
| Q17 | C-4 |
| Q101 | F-10 |
| Q201 | F-10 |
| Q301 | D-10 |
| Q302 | D-12 |
| Q303 | D-10 |
| Q304 | D-10 |
| Q401 | J-19 |
| Q402 | J-19 |
| Q403 | J-20 |
| Q404 | I-16 |
| Q601 | C-2 |
| Q602 | C-2 |
| Q901 | F-9 |
| Q902 | E-14 |
| Q903 | C-10 |
| Q904 | D-14 |
| Q905 | D-13 |

Note:
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern on the side which is seen.
- ▫ : Pattern of the rear side.

### • Semiconductor Lead Layouts

**BA6247FP**

**BA6296FP**

**CXA1081Q**

**CXA1182QZ**

**CXD2500BQ**

**S-8054-HN-CB-S**

**MM1176XF**

**SM5871AS**

**TA7805S**

**PQ09RA1**

**X24C16S1**

**2SA1428-Y**

**2SD1802**

**FMC2**

**EC10DS2**

**GP1S06 SG220**

**1S2836**

**LN1251C**

**MA152WK**

**RB411D RD6.2M-B2**

**PN147-LF-R**

**NEW**

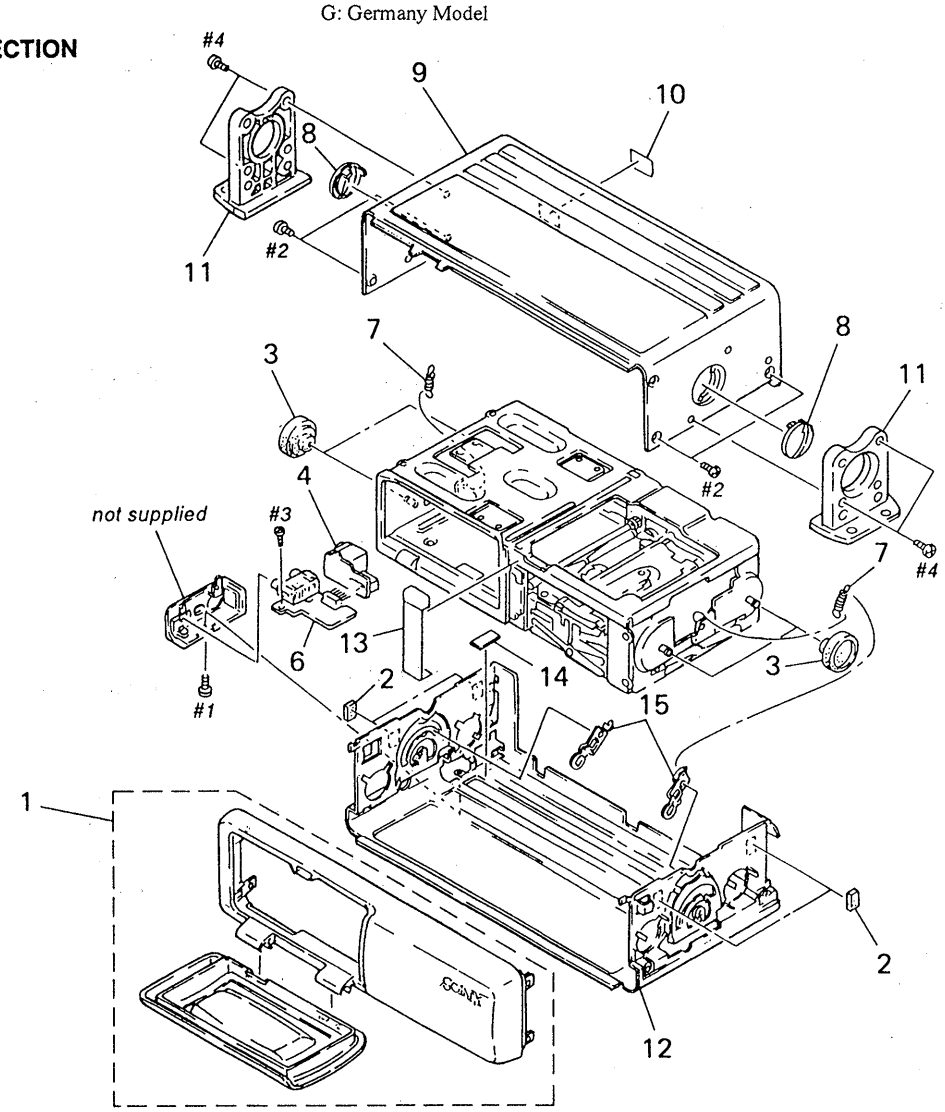
# SECTION 5
# EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Abbreviation
  G: Germany Model

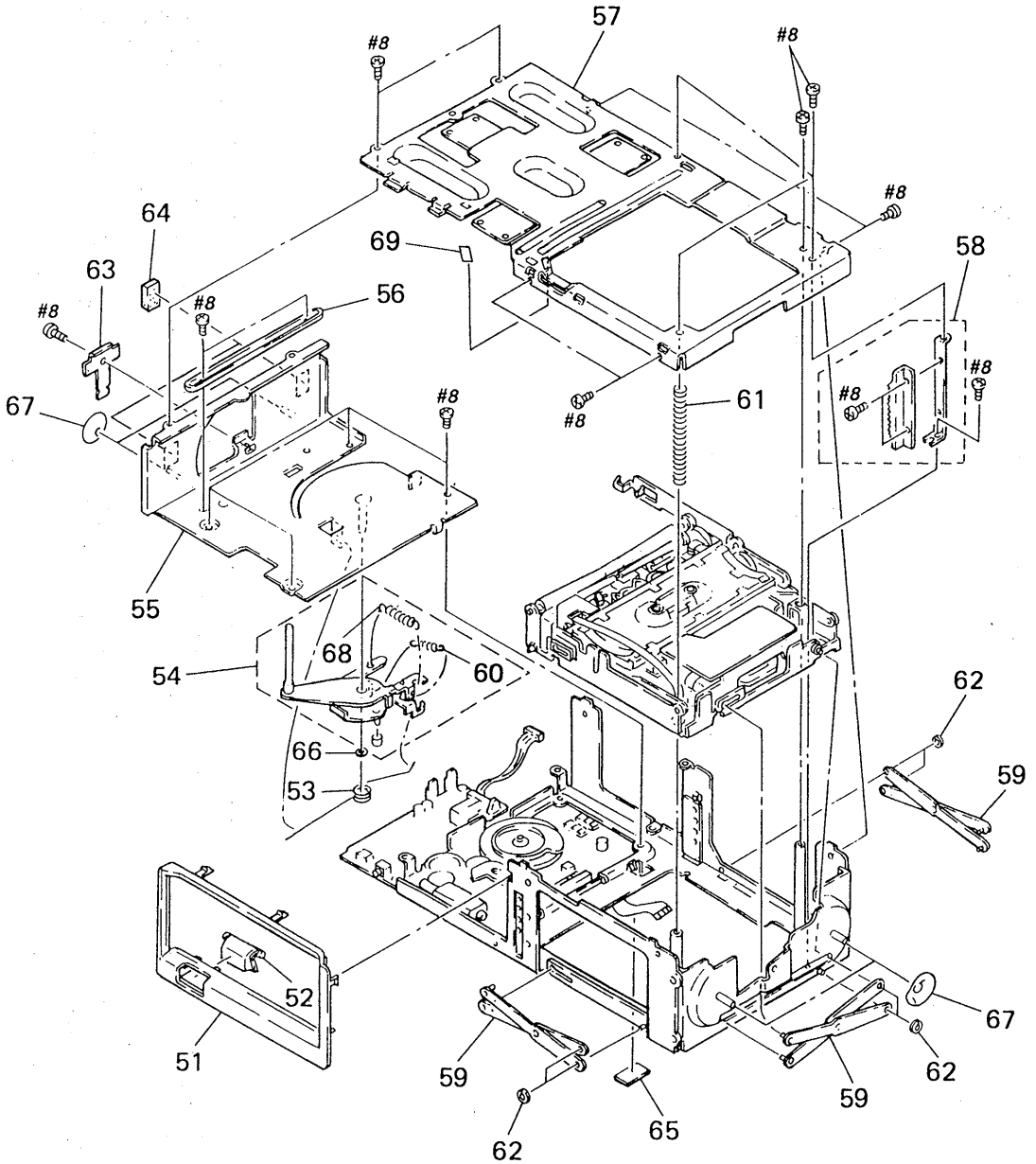
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## (1) CASE SECTION




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | X-3366-627-1 | PANEL ASSY, FRONT (US) | |
| 1 | X-3366-628-1 | PANEL ASSY, FRONT (AEP, G, E) | |
| 2 | 3-385-834-01 | SPACER (CASE) | |
| 3 | 3-375-501-01 | DAMPER (CNG) | |
| * 4 | 1-642-345-11 | BUS BOARD (FORMER) | |
| * 4 | 1-647-693-11 | BUS BOARD (NEW) | |
| * 6 | 1-642-344-11 | JACK BOARD (FORMER) | |
| * 6 | 1-647-716-11 | JACK BOARD (NEW) | |
| 7 | 3-368-778-01 | SPRING (FL), TENSION | |
| 8 | 3-375-504-01 | LEVER (SPRING) | |
| * 9 | 3-375-502-31 | CASE (UPPER) | |
| * 10 | 4-885-838-00 | LABEL, CLASS 1 (AEP) | |
| * 11 | 3-375-508-01 | BRACKET (300) | |
| * 12 | 3-375-503-01 | CASE (LOWER) | |
| 13 | 3-372-331-01 | SHEET (ESCUTCHEON) | |
| * 14 | 3-368-780-01 | SHEET (PC BOARD) | |
| 15 | X-3364-882-1 | ARM (SPRING) ASSY | |

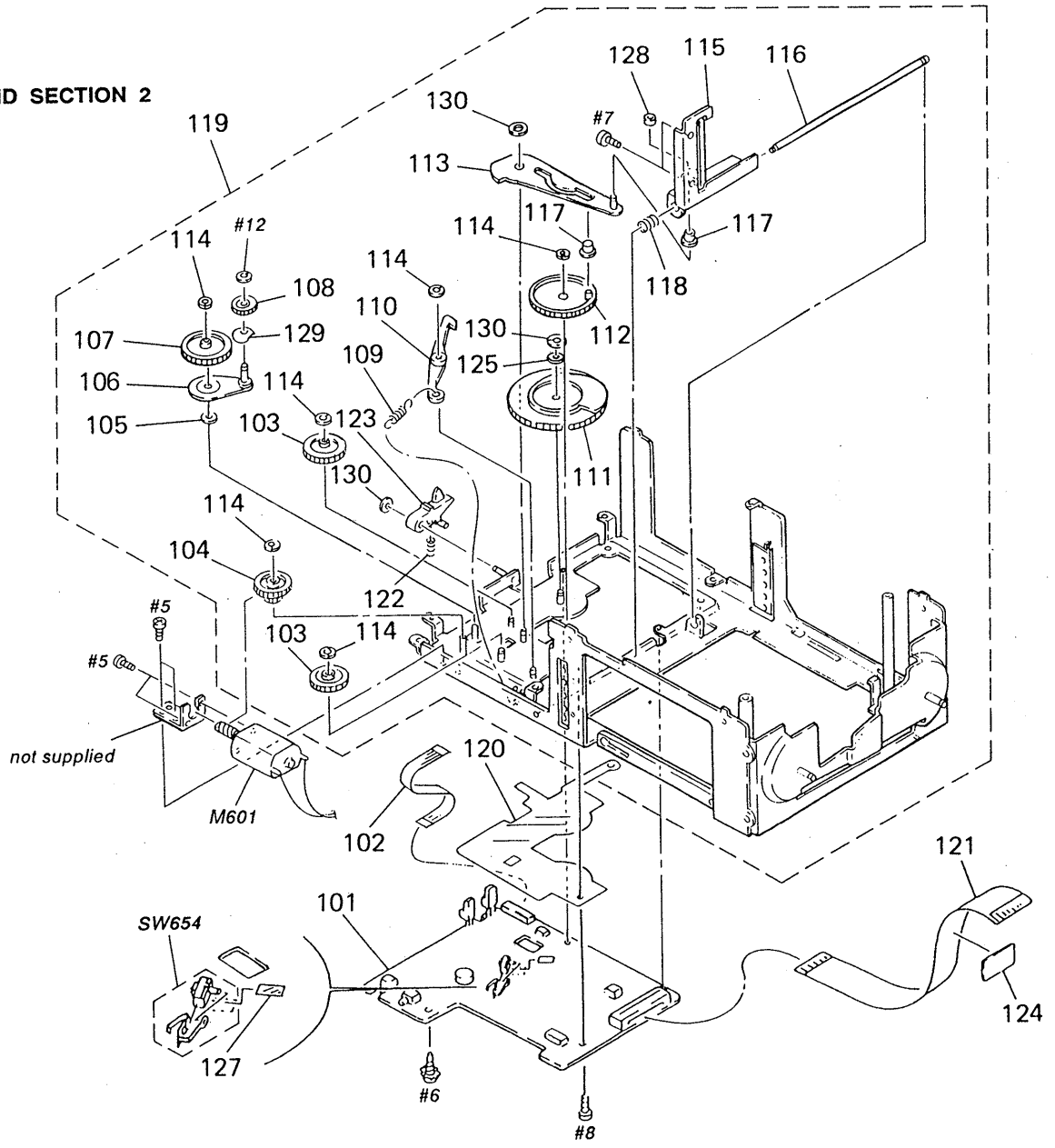
## (2) MD SECTION 1




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 51 | 3-364-436-01 | ESCUTCHEON | |
| 52 | 3-364-437-01 | BUTTON (EJ) | |
| 53 | 3-364-478-01 | SPRING (EJ) | |
| 54 | X-3362-332-1 | LEVER (EJ) ASSY | |
| * 55 | X-3362-334-1 | CHASSIS (MZ) ASSY | |
| * 56 | 3-364-434-01 | GUIDE (MZ) | |
| * 57 | X-3362-347-1 | COVER (MD) ASSY | |
| 58 | X-3362-488-1 | RACK ASSY | |
| * 59 | X-3362-348-1 | LEVER (X) ASSY | |
| 60 | 3-568-814-00 | SPRING, TENSION | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 61 | 3-370-364-01 | SPRING, COMPRESSION | |
| 62 | 3-377-719-01 | WASHER, POLYETHYLENE | |
| * 63 | 3-364-410-03 | BRACKET (TR) | |
| 64 | 3-350-124-01 | CUSHION (EJECT) | |
| 65 | 9-911-844-XX | CUSHION, BATTERY | |
| 66 | 3-377-720-01 | WASHER, POLYETHYLENE | |
| 67 | 3-385-808-01 | SHEET, PROTECTION, DAMPER | |
| 68 | 3-382-553-02 | SPRING (EJ), TENSION | |
| * 69 | 3-346-962-01 | CUSHION (EJ) | |

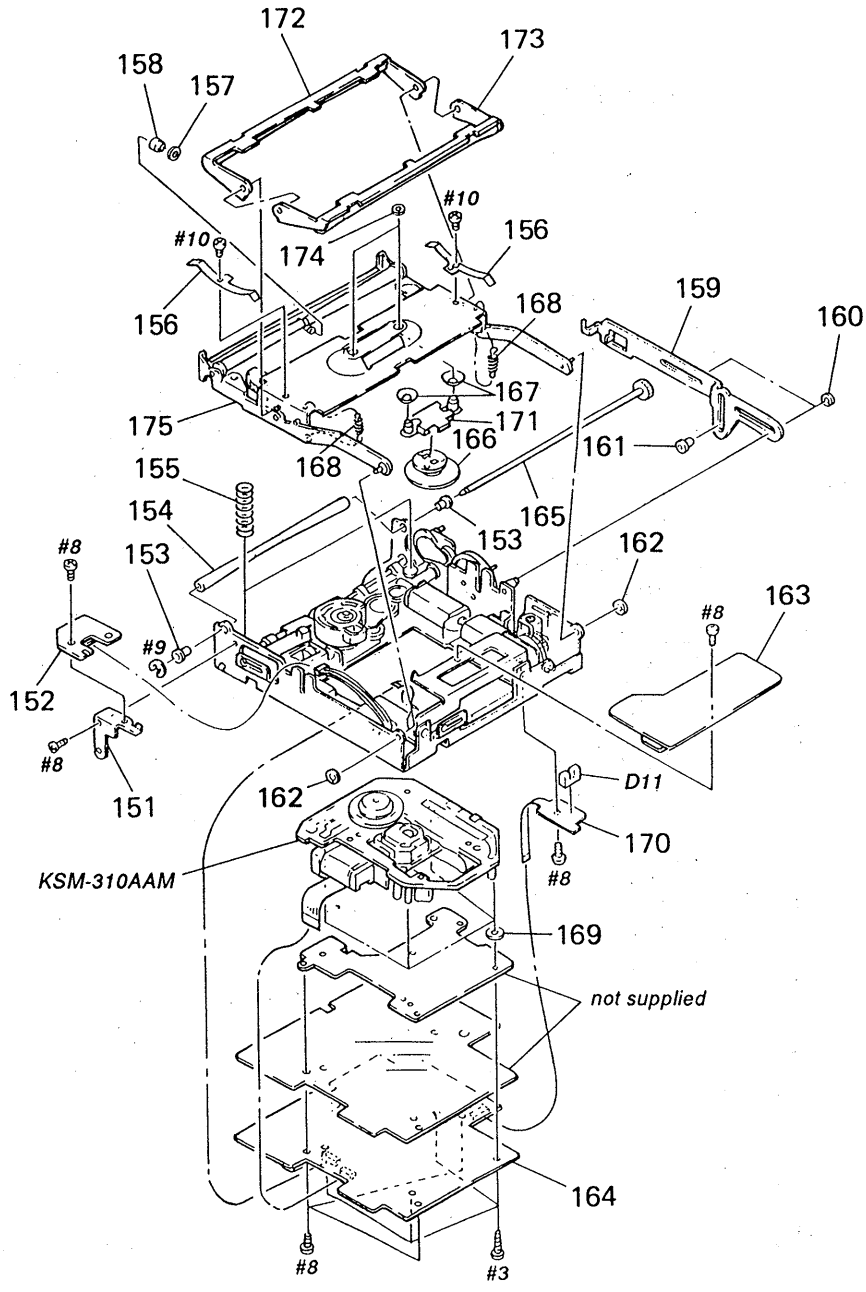
## (3) MD SECTION 2




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 101 | A-3273-767-A | MD BOARD, COMPLETE (FORMER) | |
| * 101 | A-3295-444-A | MAIN BOARD, COMPLETE (NEW) | |
| 102 | 1-642-838-11 | JACK FLEXIBLE BOARD | |
| 103 | 3-364-420-01 | GEAR (M) | |
| 104 | 3-364-413-01 | WHEEL (B), WORM | |
| 105 | 3-701-437-01 | WASHER | |
| 106 | X-3364-526-2 | LEVER (KMZ) ASSY | |
| 107 | 3-364-417-01 | GEAR (L) | |
| 108 | 3-364-415-01 | GEAR (KS) | |
| 109 | 3-531-866-01 | SPRING, TENSION | |
| 110 | 3-364-433-01 | STOPPER (DR) | |
| 111 | 3-364-411-01 | GEAR (EJ), CAM | |
| 112 | 3-364-432-01 | GEAR (DR) | |
| * 113 | X-3364-527-1 | LEVER (DR) ASSY | |
| 114 | 3-377-719-01 | WASHER, POLYETHYLENE | |
| * 115 | X-3364-525-1 | SLIDER (DR) ASSY | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 116 | 3-364-502-01 | SHAFT (SDR) | |
| 117 | 3-364-506-01 | ROLLER (SL) | |
| 118 | 3-568-315-01 | SPRING, COMPRESSION | |
| * 119 | X-3364-556-1 | CHASSIS SUB ASSY, MD | |
| * 120 | 3-368-567-01 | SHEET (MD), INSULATING | |
| 121 | 1-639-551-11 | EV FLEXIBLE BOARD | |
| 122 | 3-370-385-01 | SPRING, COMPRESSION | |
| * 123 | 3-364-431-01 | LEVER (MZ LOCK) | |
| 124 | 9-911-844-XX | CUSHION, BATTERY | |
| 125 | 3-373-013-01 | SPRING (EJ CAM) | |
| * 127 | 4-920-366-01 | SPACER (S) | |
| 128 | 3-379-490-11 | WASHER, POLYETHYLENE | |
| 129 | 3-364-387-11 | SPRING (F) | |
| 130 | 3-377-720-21 | WASHER, POLYETHYLENE | |
| M601 | X-3362-325-1 | MOTOR ASSY (ELEVATOR) | |
| SW654 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (EJECT DET) | |

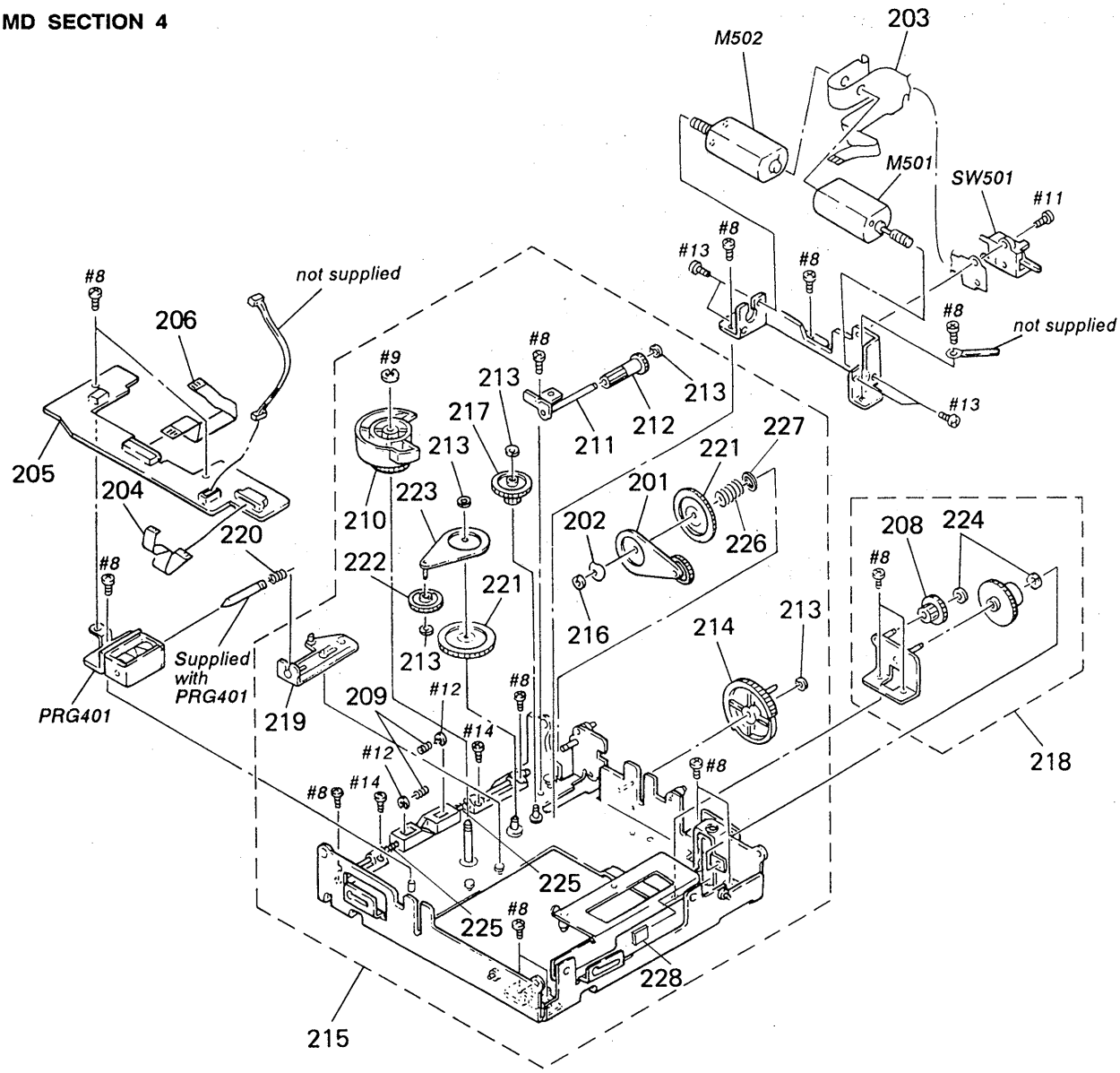
## (4) MD SECTION 3




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 151 | 3-368-565-01 | BRACKET (DPT) | |
| * 152 | 1-642-343-11 | DPT BOARD (FORMER) | |
| * 152 | 1-647-692-11 | DPT BOARD (NEW) | |
| 153 | 3-364-421-01 | BEARING (ROLLER) | |
| 154 | 3-323-231-11 | ROLLER (LOWER) | |
| 155 | 3-364-508-01 | SPRING, COMPRESSION | |
| 156 | 3-375-290-01 | SPRING (DH) | |
| 157 | 3-341-752-11 | WASHER, POLYETHYLENE | |
| 158 | 3-364-504-01 | ROLLER (RA) | |
| * 159 | 3-364-380-01 | LEVER, SLIDE | |
| 160 | 3-377-720-11 | WASHER, POLYETHYLENE | |
| 161 | 3-364-506-01 | ROLLER (SL) | |
| 162 | 3-377-719-01 | WASHER, POLYETHYLENE | |
| * 163 | 1-642-341-11 | DRIVER BOARD (FORMER) | |
| * 163 | A-3295-443-A | DRIVER BOARD, COMPLETE (NEW) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| * 164 | A-3273-766-A | SERVO BOARD, COMPLETE (FORMER) | |
| * 164 | A-3295-473-A | SERVO BOARD, COMPLETE (NEW) | |
| 165 | X-3362-345-1 | GEAR ASSY, ROLLER | |
| 166 | 3-380-759-02 | PLATE (C), CHUCK | |
| 167 | 3-364-387-01 | SPRING (F) | |
| 168 | 3-371-504-01 | SPRING, TENSION | |
| * 169 | 3-360-121-31 | SPACER (W) | |
| 170 | 1-637-483-11 | EHS FLEXIBLE BOARD | |
| 171 | X-3364-480-2 | BRACKET (CP) ASSY | |
| 172 | X-3364-482-2 | ARM (DH) ASSY | |
| 173 | X-3364-483-2 | ARM (DH2) ASSY | |
| 174 | 3-342-940-01 | WASHER (M) | |
| 175 | X-3366-564-1 | ARM (R) SERVICE ASSY | |
| D11 | 8-719-988-47 | DIODE GP1S06 (FORMER) | |
| D11 | 8-749-924-17 | DIODE PHOTO INTERRUPTER SG-220 (NEW) | |

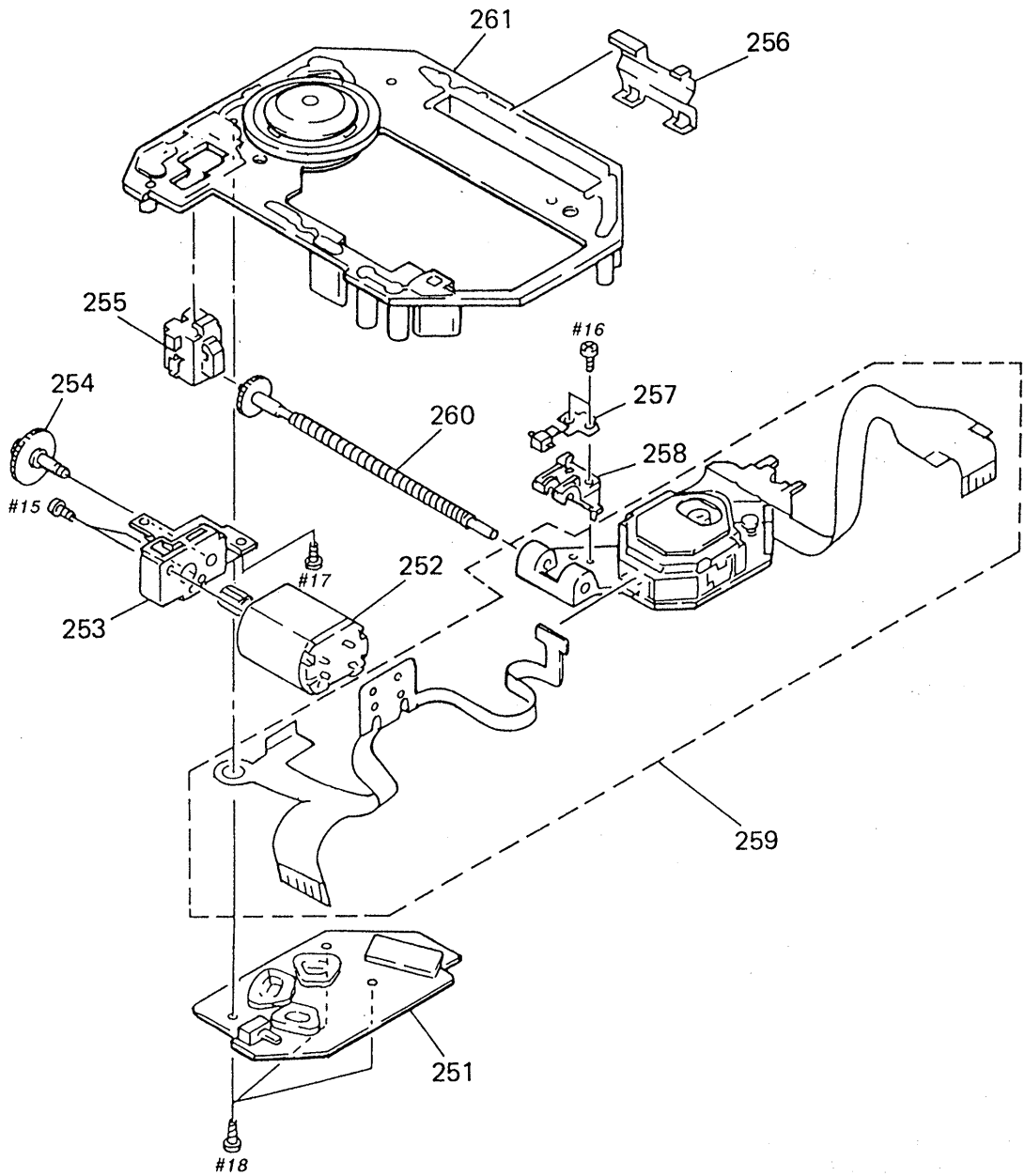
## (5) MD SECTION 4




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 201 | X-3364-535-3 | GEAR (KW) ASSY | |
| 202 | 3-364-387-01 | SPRING (F) | |
| 203 | 1-643-083-11 | MOTOR FLEXIBLE BOARD | |
| 204 | 1-642-972-11 | DRIVER FLEXIBLE BOARD | |
| * 205 | A-3295-441-A | SENSOR BOARD, COMPLETE (NEW) | |
| * 205 | 1-642-342-11 | SENSOR BOARD (FORMER) | |
| 206 | 1-642-931-11 | SENSOR FLEXIBLE BOARD | |
| 208 | X-3365-420-4 | WHEEL (E) ASSY, WORM | |
| 209 | 3-485-239-00 | SPRING, COMPRESSION | |
| 210 | 3-364-419-01 | GEAR (R), CAM | |
| 211 | X-3364-530-1 | BRACKET (WWR) ASSY | |
| 212 | 3-364-416-01 | WHEEL (R), WORM | |
| 213 | 3-377-719-01 | WASHER, POLYETHYLENE | |
| 214 | 3-364-418-01 | GEAR (SL) | |
| * 215 | X-3364-555-5 | CHASSIS SUB ASSY, EV | |
| 216 | 3-377-719-11 | WASHER, POLYETHYLENE | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 217 | 3-364-505-01 | WHEEL (C), WORM | |
| 218 | X-3362-485-1 | GEAR ASSY, EV | |
| 219 | X-3364-531-1 | SLIDER (KR) ASSY | |
| 220 | 3-353-804-01 | SPRING, COMPRESSION | |
| 221 | 3-364-417-01 | GEAR (L) | |
| 222 | 3-364-422-01 | GEAR (K) | |
| 223 | X-3364-529-1 | LEVER (KRA) ASSY | |
| 224 | 3-321-813-01 | WASHER, COTTER POLYETHYLENE | |
| 225 | 3-308-717-00 | SPRING, COMPRESSION | |
| 226 | 3-388-479-01 | SPRING, COMPRESSION | |
| 227 | 3-701-441-11 | POLY, WASHER DIA. 4 | |
| * 228 | 3-317-054-01 | SPACER, E | |
| M501 | X-3362-325-1 | MOTOR ASSY (ELV) | |
| M502 | X-3362-325-1 | MOTOR ASSY (DISC LOAD/SAVE) | |
| PRG401 | 1-454-580-11 | SOLENOID, PLUNGER | |
| SW501 | 1-571-300-31 | SWITCH, ROTARY | |

## (6) OPTICAL PICK-UP BLOCK (KSM-310AAM)




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 251 | 8-835-456-01 | MOTOR, DC SSC-02E01S | |
| 252 | X-2625-210-1 | GEAR ASSY, SLED MOTOR | |
| * 253 | 2-625-513-01 | BASE, DRIVING | |
| 254 | 2-625-507-01 | GEAR (B2) | |
| * 255 | A-4910-348-B | RETAINER ASSY, THRUST | |
| * 256 | 2-625-514-01 | COVER, FLEXIBLE | |
| 257 | 2-625-516-01 | SPRING (A), FEED | |
| 258 | 2-625-515-01 | RACK (AT) | |
| ⚠259 | 8-848-178-11 | OPTICAL KSS-310A PICK-UP | |
| 260 | X-2625-209-1 | SCREW ASSY, SLED | |
| 261 | X-2625-270-2 | OMD CHASSIS ASSY | |

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

# SECTION 6
# ELECTRICAL PARTS LIST

BUS EHS JACK SERVO

## 6-1. FORMER TYPE

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF: μF
- COILS
  uH: μH

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When including parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| * | 1-642-345-11 | BUS BOARD | | |
| | | ********** | | |
| | | < CONNECTOR > | | |
| CN801 | 1-580-907-11 | PLUG, CONNECTOR (CONTOL) | | |
| | | < JACK > | | |
| * CNJ801 | 1-566-968-11 | HOUSING, CONNECTOR (PC BOARD) 6P | | |
| ********** | | | | |
| | 1-637-483-11 | EHS FLEXIBLE BOARD | | |
| | | ********** | | |
| | | < DIODE > | | |
| D11 | 8-719-988-47 | DIODE GP1S06 (EHS) | | |
| ********** | | | | |
| * | 1-642-344-11 | JACK BOARD | | |
| | | ********** | | |
| | | < CAPACITOR > | | |
| C701 | 1-163-038-00 | CERAMIC CHIP 0.1uF | | 25V |
| C702 | 1-163-003-11 | CERAMIC CHIP 330PF | 10% | 50V |
| | | < CONNECTOR > | | |
| CN701 | 1-580-441-11 | JACK, PIN 2P (AUDIO) | | |
| | | < JACK > | | |
| CNJ701 | 1-573-549-11 | SOCKET, CONNECTOR 11P | | |
| * CNP701 | 1-566-971-11 | PIN, CONNECTOR (PC BOARD) 6P | | |
| | | < IC > | | |
| IC701 | 1-532-984-11 | LINK, IC (ICP-N50) | | |
| ********** | | | | |

| Ref. No. | Part No. | Description | | Remark |
|---|---|---|---|---|
| * | A-3273-766-A | SERVO BOARD, COMPLETE | | |
| | | ********** | | |
| | | < CAPACITOR > | | |
| C11 | 1-128-021-11 | ELECT CHIP 15uF | | 6.3V |
| C12 | 1-135-162-21 | TANTALUM CHIP 33uF | 20% | 6.3V |
| C13 | 1-135-162-21 | TANTALUM CHIP 33uF | 20% | 6.3V |
| C14 | 1-128-021-11 | ELECT CHIP 15uF | | 6.3V |
| C15 | 1-163-989-11 | CERAMIC CHIP 0.033uF | 10% | 25V |
| C16 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% | 50V |
| C17 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% | 50V |
| C18 | 1-163-989-11 | CERAMIC CHIP 0.033uF | 10% | 25V |
| C19 | 1-164-232-11 | CERAMIC CHIP 0.01uF | | 50V |
| C20 | 1-128-021-11 | ELECT CHIP 15uF | | 6.3V |
| C21 | 1-128-021-11 | ELECT CHIP 15uF | | 6.3V |
| C22 | 1-163-093-00 | CERAMIC CHIP 10PF | 5% | 50V |
| C23 | 1-163-037-11 | CERAMIC CHIP 0.022uF | 10% | 25V |
| C24 | 1-163-024-00 | CERAMIC CHIP 0.018uF | 10% | 50V |
| C25 | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% | 100V |
| C26 | 1-163-038-00 | CERAMIC CHIP 0.1uF | | 25V |
| C27 | 1-163-038-00 | CERAMIC CHIP 0.1uF | | 25V |
| C28 | 1-163-038-00 | CERAMIC CHIP 0.1uF | | 25V |
| C29 | 1-135-157-21 | TANTALUM CHIP 10uF | 20% | 6.3V |
| C30 | 1-163-038-00 | CERAMIC CHIP 0.1uF | | 25V |
| C31 | 1-164-232-11 | CERAMIC CHIP 0.01uF | | 50V |
| C32 | 1-164-232-11 | CERAMIC CHIP 0.01uF | | 50V |
| C33 | 1-163-038-00 | CERAMIC CHIP 0.1uF | | 25V |
| C34 | 1-135-162-21 | TANTALUM CHIP 33uF | 20% | 6.3V |
| C35 | 1-164-004-11 | CERAMIC CHIP 0.1uF | 10% | 25V |
| C36 | 1-163-017-00 | CERAMIC CHIP 0.0047uF | 5% | 50V |
| C37 | 1-128-031-11 | ELECT CHIP 10uF | | 16V |
| C38 | 1-128-031-11 | ELECT CHIP 10uF | | 16V |
| C39 | 1-128-031-11 | ELECT CHIP 10uF | | 16V |
| C40 | 1-128-031-11 | ELECT CHIP 10uF | | 16V |
| C41 | 1-163-809-11 | CERAMIC CHIP 0.047uF | 10% | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C42 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C43 | 1-128-021-11 | ELECT CHIP | 15uF | | 6.3V |
| C44 | 1-135-145-11 | TANTALUM CHIP | 0.47uF | 10% | 35V |
| C45 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C46 | 1-135-162-21 | TANTALUM CHIP | 33uF | 20% | 6.3V |
| C47 | 1-135-155-21 | TANTALUM CHIP | 4.7uF | 10% | 16V |
| C48 | 1-128-021-11 | ELECT CHIP | 15uF | | 6.3V |
| C49 | 1-128-021-11 | ELECT CHIP | 15uF | | 6.3V |
| C50 | 1-128-021-11 | ELECT CHIP | 15uF | | 6.3V |
| C51 | 1-128-021-11 | ELECT CHIP | 15uF | | 6.3V |
| C52 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C53 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C601 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C602 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| | | < JACK > | | | |
| CNJ5 | 1-580-438-21 | CONNECTOR, FPC 4P | | | |
| | | < DIODE > | | | |
| D601 | 8-719-104-34 | DIODE | 1S2836 | | |
| D602 | 8-719-400-18 | DIODE | MA152WK | | |
| | | < IC > | | | |
| IC11 | 8-752-033-14 | IC | CXA1081Q | | |
| IC12 | 8-752-037-48 | IC | CXA1182Q-Z | | |
| IC13 | 8-752-337-26 | IC | CXD2500AQ | | |
| IC14 | 8-759-518-59 | IC | BA6296FP | | |
| IC15 | 8-759-981-69 | IC | LM2904M | | |
| IC601 | 8-759-065-43 | IC | uPD75116GF-F42-3BE | | |
| IC602 | 8-759-513-44 | IC | XC24C16SI | | |
| | | < TRANSISTOR > | | | |
| Q11 | 8-729-804-41 | TRANSISTOR | 2SB1122-S | | |
| Q12 | 8-729-901-00 | TRANSISTOR | DTC124EK | | |
| Q13 | 8-729-807-35 | TRANSISTOR | 2SB1123 | | |
| Q14 | 8-729-901-00 | TRANSISTOR | DTC124EK | | |
| Q15 | 8-729-921-25 | TRANSISTOR | FMC2 | | |
| Q16 | 8-729-921-25 | TRANSISTOR | FMC2 | | |
| Q17 | 8-729-807-12 | TRANSISTOR | 2SD1802S | | |
| Q601 | 8-729-901-05 | TRANSISTOR | DTA124EK | | |
| Q602 | 8-729-901-05 | TRANSISTOR | DTA124EK | | |
| | | < RESISTOR > | | | |
| R11 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R12 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R13 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R14 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R15 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R16 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R17 | 1-216-024-00 | METAL GLAZE | 91 | 5% | 1/10W |
| R18 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R19 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R20 | 1-216-150-00 | METAL GLAZE | 10 | 5% | 1/8W |
| R21 | 1-216-152-00 | METAL GLAZE | 12 | 5% | 1/8W |
| R22 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R23 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R24 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R25 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R26 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R27 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R28 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R41 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R42 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R43 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R44 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R46 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R47 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R48 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R49 | 1-216-114-00 | METAL GLAZE | 510K | 5% | 1/10W |
| R50 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R51 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R52 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R53 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R54 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R55 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R56 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R57 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R58 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R59 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R60 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R61 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R62 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R63 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R64 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R65 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R66 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R67 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R68 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R69 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R70 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R71 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R72 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R73 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R74 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R75 | 1-216-068-00 | METAL CHIP | 6.2K | 5% | 1/10W |
| R76 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R601 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R602 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R603 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R604 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R605 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R606 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R607 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R608 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R609 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R610 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| | | < VARIABLE RESISTOR > | | | |
| RV11 | 1-230-871-11 | RES, ADJ, METAL 22K | | | |
| RV12 | 1-230-871-11 | RES, ADJ, METAL 22K | | | |
| RV13 | 1-230-871-11 | RES, ADJ, METAL 22K | | | |
| RV14 | 1-230-871-11 | RES, ADJ, METAL 22K | | | |
| | | < VIBRATOR > | | | |
| X601 | 1-577-273-11 | OSCILLATOR, CERAMIC 4.19MHz | | | |
| ********** | | | | | |
| * | 1-642-343-11 | DPT BOARD | | | |
| | | ********** | | | |
| | | < DIODE > | | | |
| D451 | 8-719-404-19 | LED LN1251C (DPT) | | | |
| ********** | | | | | |
| * | 1-642-341-11 | DRIVER BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C501 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C503 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C504 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C505 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| | | < JACK > | | | |
| CNJ502 | 1-565-340-11 | SOCKET, CONNECTOR 6P | | | |
| | | < DIODE > | | | |
| D501 | 8-719-404-19 | LED LN1251C (DOE) | | | |
| | | < IC > | | | |
| IC501 | 8-759-511-17 | IC BA6247N | | | |
| | | < RESISTOR > | | | |
| R501 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R502 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R503 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R504 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R505 | 1-218-232-91 | METAL GLAZE | 4.7 | 10% | 1/2W |
| R506 | 1-218-232-91 | METAL GLAZE | 4.7 | 10% | 1/2W |
| ********** | | | | | |
| * | A-3273-767-A | MD BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-115-00 | CERAMIC CHIP | 82PF | 5% | 50V |
| C102 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C103 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C104 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C105 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C106 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C201 | 1-163-115-00 | CERAMIC CHIP | 82PF | 5% | 50V |
| C202 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C203 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C204 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C205 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C206 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C301 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C302 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C303 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C304 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C305 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C306 | 1-162-568-11 | CERAMIC CHIP | 0.33uF | | 25V |
| C307 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C308 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C309 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C310 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C311 | 1-135-179-21 | TANTAL. CHIP | 2.2uF | 20% | 16V |
| C315 | 1-162-207-31 | CERAMIC | 22PF | 5% | 50V |
| C316 | 1-162-293-21 | CERAMIC | 820PF | 5% | 50V |
| C651 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C652 | 1-163-029-11 | CERAMIC CHIP | 0.0047uF | | 50V |
| C653 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C654 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C655 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C656 | 1-125-733-21 | CAP, DOUBLE LAYER | 0.047F | | 5.5V |
| C657 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C901 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C902 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C904 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C905 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C906 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C907 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C908 | 1-126-301-11 | ELECT | 1uF | 20% | 50V |
| C909 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C910 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C911 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < JACK > | |
| CNJ901 | 1-580-106-21 | CONNECTOR, FPC 28P | |
| CNJ902 | 1-573-549-11 | SOCKET, CONNECTOR 11P | |
| | | < DIODE > | |
| D651 | 8-719-400-18 | DIODE MA152WK | |
| D652 | 8-719-106-08 | DIODE RD6.2M-B2 | |
| D653 | 8-719-106-08 | DIODE RD6.2M-B2 | |
| D654 | 8-719-975-40 | DIODE RB411D | |
| D901 | 8-719-210-33 | DIODE EC10DS2 | |
| D902 | 8-719-210-33 | DIODE EC10DS2 | |
| D903 | 8-719-400-18 | DIODE MA152WK | |
| D904 | 8-719-106-08 | DIODE RD6.2M-B2 | |
| D905 | 8-719-106-08 | DIODE RD6.2M-B2 | |
| D906 | 8-719-104-34 | DIODE 1S2836 | |
| D907 | 8-719-400-18 | DIODE MA152WK | |
| | | < FERRITE BEAD > | |
| FB301 | 1-543-469-11 | BEAD, FERRITE (CHIP) | |
| | | < IC > | |
| IC101 | 8-759-710-55 | IC NJM2100M | |
| IC301 | 8-759-060-19 | IC SM5871AS | |
| IC302 | 8-759-243-19 | IC TC7SU04F | |
| IC651 | 8-759-981-65 | IC LM2903M | |
| IC652 | 8-759-822-09 | IC LB1641 | |
| IC653 | 8-759-940-45 | IC S-8054HN-CB | |
| IC901 | 8-759-231-53 | IC TA7805S | |
| IC902 | 8-759-054-12 | IC PQ09RA1 | |
| | | < COIL > | |
| L303 | 1-410-198-51 | INDUCTOR CHIP 3.3uH | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-921-73 | TRANSISTOR 2SD1781K-QR | |
| Q201 | 8-729-921-73 | TRANSISTOR 2SD1781K-QR | |
| Q301 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q302 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q303 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q304 | 8-729-901-05 | TRANSISTOR DTA124EK | |
| Q651 | 8-729-901-05 | TRANSISTOR DTA124EK | |
| Q652 | 8-729-230-49 | TRANSISTOR 2SC2712-G | |
| Q653 | 8-729-230-49 | TRANSISTOR 2SC2712-G | |
| Q654 | 8-729-230-49 | TRANSISTOR 2SC2712-G | |
| Q901 | 8-729-205-95 | TRANSISTOR 2SA1428-Y | |
| Q902 | 8-729-901-00 | TRANSISTOR DTC124EK | |
| Q903 | 8-729-230-49 | TRANSISTOR 2SC2712-G | |
| Q904 | 8-729-901-05 | TRANSISTOR DTA124EK | |
| Q905 | 8-729-230-49 | TRANSISTOR 2SC2712-G | |
| | | < RESISTOR > | |
| R101 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R102 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R103 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R104 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R105 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R106 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R107 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R108 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R109 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R110 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R111 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R112 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R201 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R202 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R203 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R204 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R205 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R206 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R207 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R208 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R209 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R210 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R211 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R212 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R301 | 1-216-121-00 | METAL CHIP 1M 5% 1/10W | |
| R302 | 1-216-029-00 | METAL CHIP 150 5% 1/10W | |
| R303 | 1-216-150-00 | METAL GLAZE 10 5% 1/8W | |
| R304 | 1-216-150-00 | METAL GLAZE 10 5% 1/8W | |
| R305 | 1-216-150-00 | METAL GLAZE 10 5% 1/8W | |
| R651 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R652 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R653 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R654 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R655 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R656 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R657 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R658 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R659 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R660 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R661 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R662 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R663 | 1-216-051-00 | METAL CHIP 1.2K 5% 1/10W | |
| R664 | 1-216-043-00 | METAL CHIP 560 5% 1/10W | |
| R665 | 1-218-279-11 | METAL GLAZE 12 5% 1/2W | |
| R666 | 1-218-279-11 | METAL GLAZE 12 5% 1/2W | |
| R667 | 1-218-279-11 | METAL GLAZE 12 5% 1/2W | |
| R668 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R669 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R901 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R902 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R903 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R904 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R905 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R906 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R907 | 1-216-081-00 | METAL CHIP | 39K | 5% | 1/10W |
| R908 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| | | < SWITCH > | | | |
| SW651 | 1-571-532-51 | SWITCH, TACTIL (EJECT) | | | |
| SW652 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (PST) | | | |
| SW653 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (LOCK) | | | |
| SW654 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (EJT) | | | |
| SW655 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (LOT) | | | |
| | | < VIBRATOR > | | | |
| X301 | 1-567-908-11 | VIBRATOR, CRYSTAL 16.9344MHz | | | |
| ********** | | | | | |
| | 1-643-083-11 | MOTOR FLEXIBLE, BOARD | | | |
| | | ********** | | | |
| | | < MOTOR > | | | |
| M501 | X-3362-325-1 | MOTOR, ASSY (ELV) | | | |
| M502 | X-3362-325-1 | MOTOR, ASSY (DISC LOAD/SAVE) | | | |
| | | < SWITCH > | | | |
| SW501 | 1-571-300-31 | SWITCH, ROTARY (HOME) | | | |
| ********** | | | | | |
| * | 1-642-342-11 | SENSOR BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C401 | 1-124-242-00 | ELECT | 33uF | 20% | 25V |
| | | < CONNECTOR > | | | |
| * CNP402 | 1-568-951-51 | PIN, CONNECTOR (STRAIGHT) 2P | | | |
| | | < DIODE > | | | |
| D401 | 8-719-400-18 | DIODE MA152WK | | | |
| | | < TRANSISTOR > | | | |
| Q401 | 8-729-804-41 | TRANSISTOR 2SB1122-S | | | |
| Q402 | 8-729-901-00 | TRANSISTOR DTC124EK | | | |
| Q403 | 8-729-402-08 | TRANSISTOR PN147-LF | | | |
| Q404 | 8-729-402-08 | TRANSISTOR PN147-LF | | | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < RESISTOR > | | | |
| R401 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R402 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R403 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| | | < SWITCH > | | | |
| SW401 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (CES) | | | |
| ********** | | | | | |

## 6-2. NEW TYPE

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- Abbreviation
  G: Germany Model

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

| Ref.No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | * 1-647-693-11 | BUS BOARD | | | |
| | | ********* | | | |
| | | < CAPACITOR > | | | |
| C703 | 1-162-288-31 | CERAMIC | 330PF | 10% 50V | |
| ********** | | | | | |
| * | 1-647-692-11 | DPT BOARD | | | |
| | | ********* | | | |
| | | < DIODE > | | | |
| D451 | 8-719-404-19 | LED LN1251C (DPT) | | | |
| ********** | | | | | |
| * | A-3295-443-A | DRIVER BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C501 | 1-124-034-51 | ELECT | 33uF | 20% 16V | |
| C502 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C503 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C504 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| | | < JACK > | | | |
| CNJ501 | 1-566-524-21 | CONNECTOR, FPC (ZIF) 8P | | | |
| CNJ502 | 1-565-340-11 | SOCKET, CONNECTOR 6P | | | |
| | | < DIODE > | | | |
| D501 | 8-719-404-19 | LED LN1251C (DOE) | | | |
| | | < IC > | | | |
| IC501 | 8-759-070-68 | IC BA6247FP-Y | | | |
| | | < RESISTOR > | | | |
| R501 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R502 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R503 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R504 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R505 | 1-218-232-91 | METAL GLAZE | 4.7 | 10% 1/2W | |
| R506 | 1-218-232-91 | METAL GLAZE | 4.7 | 10% 1/2W | |
| ********** | | | | | |
| | 1-637-483-11 | EHS FLEXIBLE BOARD | | | |
| | | ********** | | | |
| | | < DIODE > | | | |
| D11 | 8-749-924-17 | DIODE PHOTO INTERRUPTER SG-220 (EHS) | | | |
| ********** | | | | | |
| * | 1-647-716-11 | JACK BOARD | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C701 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C702 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% 50V | |
| | | < CONNECTOR > | | | |
| CN701 | 1-580-441-11 | JACK, PIN 2P | | | |
| | | < JACK > | | | |
| CNJ701 | 1-573-549-11 | SOCKET, CONNECTOR 11P | | | |
| | | < CONNECTOR > | | | |
| * CNP701 | 1-573-484-11 | PIN, CONNECTOR (PC BOARD) 6P | | | |
| | | < IC > | | | |
| IC701 | 1-532-686-00 | LI NK, IC | 2.7A | | |

NEW

SEE ADDITIONAL INFORMATION

JACK MAIN

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < FERRITE BEAD > | | | |
| LB101 | 1-543-948-11 | BEAD, FERRITE (CHIP) | | | |
| LB201 | 1-543-948-11 | BEAD, FERRITE (CHIP) | | | |
| LB302 | 1-543-948-11 | BEAD, FERRITE (CHIP) | | | |
| ********** | | | | | |
| * | A-3295-444-A | MAIN BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-115-00 | CERAMIC CHIP | 82PF | 5% | 50V |
| C102 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C103 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C104 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C105 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C106 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C201 | 1-163-115-00 | CERAMIC CHIP | 82PF | 5% | 50V |
| C202 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C203 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C204 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C205 | 1-163-113-00 | CERAMIC CHIP | 68PF | 5% | 50V |
| C206 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C301 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C302 | 1-163-235-11 | CERAMIC CHIP | 22PF | 5% | 50V |
| C303 | 1-163-263-11 | CERAMIC CHIP | 330PF | 5% | 50V |
| C304 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C305 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C306 | 1-162-568-11 | CERAMIC CHIP | 0.33uF | | 25V |
| C307 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C308 | 1-124-229-00 | ELECT | 33uF | 20% | 10V |
| C309 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C310 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C311 | 1-135-179-21 | TANTAL. CHIP | 2.2uF | 20% | 16V |
| C315 | 1-163-185-00 | CERAMIC CHIP | 150PF | 5% | 50V |
| C320 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C652 | 1-163-055-00 | CERAMIC CHIP | 0.0047uF | | 50V |
| C654 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C655 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C656 | 1-125-733-31 | CAP, DOUBLE LAYER | 0.047F | | |
| C657 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C901 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C902 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C903 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C904 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C905 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C906 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C907 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C908 | 1-126-301-11 | ELECT | 1uF | 20% | 50V |
| C909 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C910 | 1-124-034-51 | ELECT | 33uF | 20% | 16V |
| C911 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V |
| | | < JACK > | | | |
| CNJ901 | 1-580-106-21 | CONNECTOR, FPC 28P | | | |
| CNJ902 | 1-573-549-11 | SOCKET, CONNECTOR 11P | | | |
| | | < CONNECTOR > | | | |
| * CNP651 | 1-506-998-11 | PIN, CONNECTOR (PC BOARD) 2P | | | |
| | | < DIODE > | | | |
| D301 | 8-719-400-18 | DIODE | MA152WK | | |
| D652 | 8-719-106-08 | DIODE | RD6.2M-B2 | | |
| D653 | 8-719-106-08 | DIODE | RD6.2M-B2 | | |
| D654 | 8-719-975-40 | DIODE | RB411D | | |
| D901 | 8-719-210-33 | DIODE | EC10DS2 | | |
| D902 | 8-719-210-33 | DIODE | EC10DS2 | | |
| D903 | 8-719-400-18 | DIODE | MA152WK | | |
| D904 | 8-719-106-08 | DIODE | RD6.2M-B2 | | |
| D905 | 8-719-106-08 | DIODE | RD6.2M-B2 | | |
| D906 | 8-719-104-34 | DIODE | 1S2836 | | |
| D907 | 8-719-400-18 | DIODE | MA152WK | | |
| | | < FERRITE BEAD > | | | |
| FB301 | 1-543-469-11 | BEAD, FERRITE (CHIP) | | | |
| | | < IC > | | | |
| IC101 | 8-759-710-55 | IC | NJM2100M | | |
| IC301 | 8-759-093-98 | IC | CXD8451M | | |
| IC651 | 8-759-096-18 | IC | MM1176XF | | |
| IC652 | 8-759-822-09 | IC | LB1641 | | |
| IC653 | 8-759-165-82 | IC | PST600E | | |
| IC901 | 8-759-231-53 | IC | TA7805S | | |
| IC902 | 8-759-054-12 | IC | PQ09RA1 | | |
| | | < JUMPER RESISTOR > | | | |
| JR2 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR3 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| | | < JUMPER RESISTOR > | | | |
| JW901 | 1-218-817-11 | METAL GLAZE | 3.3 | 10% | 1/2W |
| JW902 | 1-218-817-11 | METAL GLAZE | 3.3 | 10% | 1/2W |
| JW903 | 1-218-817-11 | METAL GLAZE | 3.3 | 10% | 1/2W |
| JW904 | 1-218-817-11 | METAL GLAZE | 3.3 | 10% | 1/2W |
| | | < COIL > | | | |
| L303 | 1-410-999-11 | INDUCTOR CHIP | 3.3uH | | |



NEW

**MAIN** **MOTOR FLEXIBLE** **SENSOR**

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-921-73 | TRANSISTOR | 2SD1781K-QR | | |
| Q201 | 8-729-921-73 | TRANSISTOR | 2SD1781K-QR | | |
| Q301 | 8-729-424-59 | TRANSISTOR | UN2212 | | |
| Q302 | 8-729-424-59 | TRANSISTOR | UN2212 | | |
| Q303 | 8-729-424-59 | TRANSISTOR | UN2212 | | |
| Q304 | 8-729-424-08 | TRANSISTOR | UN2111 | | |
| Q901 | 8-729-205-95 | TRANSISTOR | 2SA1428-Y | | |
| Q902 | 8-729-424-59 | TRANSISTOR | UN2212 | | |
| Q903 | 8-729-230-49 | TRANSISTOR | 2SC2712-YG | | |
| Q904 | 8-729-424-12 | TRANSISTOR | UN2112 | | |
| Q905 | 8-729-230-49 | TRANSISTOR | 2SC2712-YG | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R102 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R103 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R104 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R105 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R106 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R107 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R108 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R109 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R110 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R111 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R112 | 1-216-202-00 | METAL GLAZE | 1.5K | 5% | 1/8W |
| R201 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R202 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R203 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R204 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R205 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R206 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R207 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R208 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R209 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R210 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R211 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R212 | 1-216-202-00 | METAL GLAZE | 1.5K | 5% | 1/8W |
| R301 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R303 | 1-216-150-00 | METAL GLAZE | 10 | 5% | 1/8W |
| R304 | 1-216-150-00 | METAL GLAZE | 10 | 5% | 1/8W |
| R305 | 1-216-150-00 | METAL GLAZE | 10 | 5% | 1/8W |
| R655 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R661 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R663 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R664 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R665 | 1-218-279-11 | METAL GLAZE | 12 | 5% | 1/2W |
| R666 | 1-218-279-11 | METAL GLAZE | 12 | 5% | 1/2W |
| R667 | 1-218-279-11 | METAL GLAZE | 12 | 5% | 1/2W |
| R668 | 1-216-238-00 | METAL GLAZE | 47K | 5% | 1/8W |
| R669 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R901 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R902 | 1-216-198-00 | METAL CHIP | 1K | 5% | 1/8W |
| R903 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R904 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R905 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R906 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R907 | 1-216-236-00 | METAL GLAZE | 39K | 5% | 1/8W |
| R908 | 1-216-238-00 | METAL GLAZE | 47K | 5% | 1/8W |
| | | < SWITCH > | | | |
| SW651 | 1-571-532-51 | SWITCH, TACTIL (EJECT) | | | |
| SW652 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (PST) | | | |
| SW653 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (LOCK) | | | |
| SW654 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (EJT) | | | |
| SW655 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (LOT) | | | |
| | | < VIBRATOR > | | | |
| X301 | 1-567-908-11 | VIBRATOR, CRYSTAL 16.9344MHz | | | |
| ********** | | | | | |
| | 1-643-083-11 | MOTOR FLEXIBLE, BOARD | | | |
| | | ********** | | | |
| | | < MOTOR > | | | |
| M501 | X-3362-325-1 | MOTOR, ASSY (ELV) | | | |
| M502 | X-3362-325-1 | MOTOR, ASSY (DISC LOAD/SAVE) | | | |
| | | < SWITCH > | | | |
| SW501 | 1-571-300-31 | SWITCH, ROTARY (HOME) | | | |
| ********** | | | | | |
| * | A-3295-441-A | SENSOR BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C401 | 1-124-229-00 | ELECT | 33uF | 20% | 10V |
| | | < JACK > | | | |
| CNJ401 | 1-566-527-11 | CONNECTOR, FPC (ZIF) 11P | | | |
| CNJ402 | 1-566-524-21 | CONNECTOR, FPC (ZIF) 8P | | | |
| | | < CONNECTOR > | | | |
| * CNP401 | 1-506-998-11 | PIN, CONNECTOR (PC BOARD) 2P | | | |
| * CNP402 | 1-564-704-11 | PIN, CONNECTOR (SMALL TYPE) 2P | | | |

**NEW**

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < DIODE > | | | |
| D401 | 8-719-400-18 | DIODE MA152WK | | | |
| | | < JUMPER RESISTOR > | | | |
| JR303 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| JR304 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W |
| | | < TRANSISTOR > | | | |
| Q401 | 8-729-804-41 | TRANSISTOR | 2SB1122-S | | |
| Q402 | 8-729-424-59 | TRANSISTOR | UN2212 | | |
| Q403 | 8-729-402-08 | TRANSISTOR | PN147-LF | | |
| Q404 | 8-729-402-08 | TRANSISTOR | PN147-LF | | |
| | | < RESISTOR > | | | |
| R401 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R402 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R403 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| | | < SWITCH > | | | |
| SW401 | 1-571-754-31 | SWITCH, PUSH (1 KEY) (CES) | | | |

**********

| | | | | | |
|---|---|---|---|---|---|
| * | A-3295-473-A | SERVO BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C11 | 1-128-535-21 | ELECT CHIP | 15uF | 20% | 6.3V |
| C12 | 1-135-162-21 | TANTALUM CHIP | 33uF | 20% | 6.3V |
| C13 | 1-135-162-21 | TANTALUM CHIP | 33uF | 20% | 6.3V |
| C14 | 1-135-157-21 | TANTALUM CHIP | 10uF | 20% | 6.3V |
| C15 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C16 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C17 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C18 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C19 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C20 | 1-128-535-21 | ELECT CHIP | 15uF | 20% | 6.3V |
| C21 | 1-128-535-21 | ELECT CHIP | 15uF | 20% | 6.3V |
| C22 | 1-163-093-00 | CERAMIC CHIP | 10PF | 5% | 50V |
| C23 | 1-163-037-11 | CERAMIC CHIP | 0.022uF | 10% | 25V |
| C24 | 1-163-024-00 | CERAMIC CHIP | 0.018uF | 10% | 50V |
| C25 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C26 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C27 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C28 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C29 | 1-135-157-21 | TANTALUM CHIP | 10uF | 20% | 6.3V |
| C30 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C31 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C32 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C33 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C34 | 1-135-162-21 | TANTALUM CHIP | 33uF | 20% | 6.3V |
| C35 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C36 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C37 | 1-128-313-11 | ELECT CHIP | 10uF | 20% | 16V |
| C38 | 1-128-313-11 | ELECT CHIP | 10uF | 20% | 16V |
| C39 | 1-128-313-11 | ELECT CHIP | 10uF | 20% | 16V |
| C40 | 1-128-313-11 | ELECT CHIP | 10uF | 20% | 16V |
| C41 | 1-163-809-11 | CERAMIC CHIP | 0.047uF | 10% | 25V |
| C42 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C43 | 1-128-535-21 | ELECT CHIP | 15uF | 20% | 6.3V |
| C44 | 1-135-145-11 | TANTALUM CHIP | 0.47uF | 10% | 35V |
| C45 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C46 | 1-135-162-21 | TANTALUM CHIP | 33uF | 20% | 6.3V |
| C47 | 1-135-155-21 | TANTALUM CHIP | 4.7uF | 10% | 16V |
| C48 | 1-135-157-21 | TANTALUM CHIP | 10uF | 20% | 6.3V |
| C49 | 1-135-157-21 | TANTALUM CHIP | 10uF | 20% | 6.3V |
| C50 | 1-135-157-21 | TANTALUM CHIP | 10uF | 20% | 6.3V |
| C51 | 1-128-535-21 | ELECT CHIP | 15uF | 20% | 6.3V |
| C52 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C53 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C55 | 1-163-077-00 | CERAMIC CHIP | 0.1uF | 10% | 25V |
| C56 | 1-163-087-00 | CERAMIC CHIP | 4PF | | 50V |
| C601 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C602 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| | | < JACK > | | | |
| CNJ1 | 1-691-801-11 | SOCKET, CONNECTOR 12P | | | |
| CNJ2 | 1-691-802-11 | SOCKET, CONNECTOR 28P | | | |
| CNJ3 | 1-568-236-21 | CONNECTOR, FPC (1.0MM) (ZIF) 11P | | | |
| CNJ4 | 1-691-801-11 | SOCKET, CONNECTOR 12P | | | |
| CNJ5 | 1-580-438-21 | CONNECTOR, FPC 4P | | | |
| | | < DIODE > | | | |
| D601 | 8-719-104-34 | DIODE 1S2836 | | | |
| D602 | 8-719-400-18 | DIODE MA152WK | | | |
| | | < IC > | | | |
| IC11 | 8-752-033-14 | IC CXA1081Q | | | |
| IC12 | 8-752-037-48 | IC CXA1182Q-Z | | | |
| IC13 | 8-752-352-93 | IC CXD2500BQ | | | |
| IC14 | 8-759-518-59 | IC BA6296FP | | | |
| IC15 | 8-759-981-69 | IC LM2904M | | | |
| IC601 | 8-759-170-95 | IC uPD75116GF-G63-3BE | | | |
| | | < JUMPER RESISTOR > | | | |
| JR1 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |



NEW

**SERVO**

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < TRANSISTOR > | | | |
| Q11 | 8-729-804-41 | TRANSISTOR | 2SB1122-S | | |
| Q12 | 8-729-424-59 | TRANSISTOR | UN2212 | | |
| Q13 | 8-729-807-33 | TRANSISTOR | 2SB1123 | | |
| Q14 | 8-729-424-59 | TRANSISTOR | UN2212 | | |
| Q15 | 8-729-921-25 | TRANSISTOR | FMC2 | | |
| Q16 | 8-729-921-25 | TRANSISTOR | FMC2 | | |
| Q17 | 8-729-820-68 | TRANSISTOR | 2SD1802FA-S | | |
| Q601 | 8-729-424-12 | TRANSISTOR | UN2112 | | |
| Q602 | 8-729-424-12 | TRANSISTOR | UN2112 | | |
| | | < RESISTOR > | | | |
| R11 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R12 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R13 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R14 | 1-216-093-00 | METAL CHIP | 68K | 5% | 1/10W |
| R15 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R16 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R17 | 1-216-024-00 | METAL GLAZE | 91 | 5% | 1/10W |
| R18 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R19 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R20 | 1-216-150-00 | METAL GLAZE | 10 | 5% | 1/8W |
| R21 | 1-216-152-00 | METAL GLAZE | 12 | 5% | 1/8W |
| R22 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R23 | 1-216-079-00 | METAL CHIP | 18K | 5% | 1/10W |
| R24 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R25 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R26 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R27 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R28 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R41 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R42 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R43 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R44 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R46 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R47 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R48 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R49 | 1-216-114-00 | METAL GLAZE | 510K | 5% | 1/10W |
| R50 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R51 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R52 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R53 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R54 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R55 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R56 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R57 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R58 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R59 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R60 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R61 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R62 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R63 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R64 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R65 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R66 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R67 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R68 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R69 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R70 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R71 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R72 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R73 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R74 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R75 | 1-216-068-00 | METAL CHIP | 6.2K | 5% | 1/10W |
| R76 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R601 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R602 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R603 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R604 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R605 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R606 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R607 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R608 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R609 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R610 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| | | < VARIABLE RESISTOR > | | | |
| RV11 | 1-238-091-11 | RES, ADJ, CERMET 22K | | | |
| RV12 | 1-238-091-11 | RES, ADJ, CERMET 22K | | | |
| RV13 | 1-238-091-11 | RES, ADJ, CERMET 22K | | | |
| RV14 | 1-238-091-11 | RES, ADJ, CERMET 22K | | | |
| | | < VIBRATOR > | | | |
| X601 | 1-577-273-11 | OSCILLATOR, CERAMIC 4.19MHz | | | |

**********

MISCELLANEOUS

**********

| | | |
|---|---|---|
| 102 | 1-642-838-11 | JACK FLEXIBLE BOARD |
| 121 | 1-639-551-11 | EV FLEXIBLE BOARD |
| 203 | 1-643-083-11 | MOTOR FLEXIBLE BOARD |
| 204 | 1-642-972-11 | DRIVER FLEXIBLE BOARD |
| 206 | 1-642-931-11 | SENSOR FLEXIBLE BOARD |
| 251 | 8-835-456-01 | MOTOR, DC SSC-02E01S |
| ⚠259 | 8-848-178-11 | DEVICE, OPTICAL KSS-310A PICK-UP |
| M501 | X-3362-325-1 | MOTOR ASSY (EJECT) |
| M502 | X-3362-325-1 | MOTOR ASSY (DISC LOAD/SAVE) |

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

**NEW**

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| M601 | X-3362-325-1 | MOTOR ASSY (ELEVATOR) | |
| PRG401 | 1-454-580-11 | SOLENOID, PLUNGER | |
| SW501 | 1-571-300-31 | SWITCH, ROTARY | |

**********

ACCESSORIES & PACKING MATERIALS
**********

| | | | |
|---|---|---|---|
| | 1-690-743-11 | CORD, CONNECTION | |
| | 1-696-308-11 | CORD (WITH CONNECTOR) | |
| | 1-696-551-11 | CORD, CONNECTION | |
| * | 3-376-998-01 | CUSHION (UPPER) | |
| * | 3-376-999-01 | CUSHION (LOWER) | |
| * | 3-388-951-01 | INDIVIDUAL CARTON (US) | |
| * | 3-388-952-01 | INDIVIDUAL CARTON (AEP, G, E) | |
| | 3-756-793-11 | MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, CHINESE) (AEP, G, E) | |
| | 3-756-793-21 | MANUAL, INSTRUCTION (ENGLISH, FRENCH) (US) | |
| | 3-756-793-41 | MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN, PORTUGUESE) (AEP) | |
| | 4-875-574-00 | SHEET, PROTECTION | |
| | X-3363-344-1 | MAGAZINE ASSY (2) | |

**********

**********
HARDWARE LIST
**********

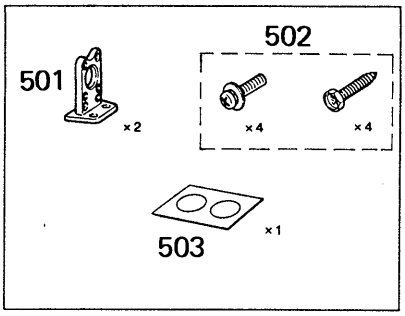
| | | |
|---|---|---|
| #1 | 7-621-255-40 | SCREW +BVTT 2X6 (S) |
| #2 | 7-621-773-95 | SCREW +PTT 2.6X6 (S) |
| #3 | 7-685-104-19 | SCREW +P 2X6 TYPE2 NON-SLIT |
| #5 | 7-621-255-10 | SCREW +P 2X3 |
| #4 | 7-682-662-09 | SCREW +PSW 4X10 |
| #6 | 7-621-770-67 | SCREW(+PTT 2.6X8), GROUND POINT |
| #7 | 7-627-554-07 | SCREW, PRECISION +P 2X2.2 |
| #8 | 7-621-255-20 | SCREW +PTT 2X4 (S) |
| #9 | 7-624-104-04 | STOP RING 2.0, TYPE -E |
| #10 | 7-627-554-37 | SCREW, PRECISION +P 2X1.8 TYPE1 |
| #11 | 7-621-259-25 | SCREW +P 2.6X4 |
| #12 | 7-624-102-04 | STOP RING 1.5, TYPE -E |
| #13 | 7-627-553-27 | SCREW, PRECISION +P 2X2.5 |
| #14 | 7-621-255-55 | SCREW +PTT 2X8 (S) |
| #15 | 7-628-253-15 | SCREW +PS 2X5 |
| #16 | 7-627-852-17 | +P 1.7X4 |
| #17 | 7-627-553-37 | PRECISION SCREW +P 2X3 TYPE 3 |
| #18 | 7-685-102-19 | SCREW +P 2X4 TYPE2 NON-SLIT |

**********

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|

MOUNTING HARDWARE
**********

| | | | |
|---|---|---|---|
| * 501 | 3-375-508-01 | BRACKET (300) | |
| 502 | X-3366-634-1 | SCREW ASSY | |
| 503 | 3-375-509-01 | LABEL (FITTING HOLE) US, AEP | |






NEW

9-957-792-11

Sony Corporation
Mobile Electronics Group



English
93C0572-1
Printed in Japan
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Published by Audio Corporate Planning Group

# CDX-70/U70

SONY
# SERVICE MANUAL

*US Model*
*AEP Model*
*E Model*

# SUPPLEMENT-1

File this supplement with the service manual.

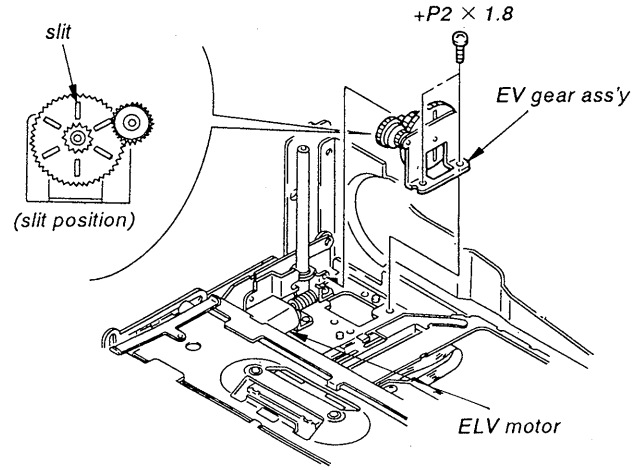
**Subject: Mechanical Adjustments**

## [ELEVATOR HEIGHT ADJUSTMENT]

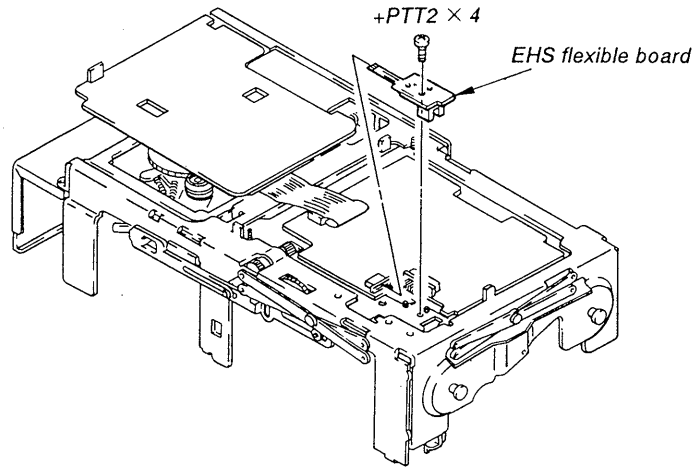
This adjustment should be done when replacing the rack assembly on the parts related to it.

**Procedure:**

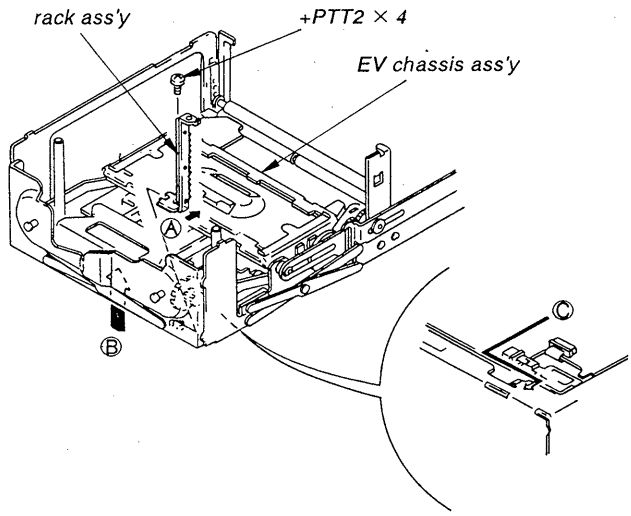
1. Fit the EV gear assembly after adjusting its slit position as shown in the figure. (When the slit position is out of order after fitting, it can be adjusted finely by turning the worm gear of the ELV motor.)




2. EHS Flexible Board Fitting.




3. Fit the rack assembly putting it in the arrow Ⓐ direction. At this time insert a spacer (approx. 1 mm thickness) or fit the rack assembly while pushing the EV chassis assembly in the arrow Ⓑ direction.




**Note:** When this adjustment is out of order, it doesn't operate normally and the roaring of the motor can be heard. In this case adjust again.


9-957-792-81

**Sony Corporation**
**Mobile Electronics Group**

**English**
93F0572-1D
Printed in Japan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**Published by Audio Sector Quality Assurance Dept.**

# CDX-70/U70

SONY
# SERVICE MANUAL

*US Model*
*CDX-U70*

*AEP Model*
*E Model*
*CDX-70*

# CORRECTION-1

Correct your service manual as shown below.

☛ : **indicates corrected portion.**

| Page | INCORRECT | | | CORRECT | |
|---|---|---|---|---|---|
| | No. | Part No. | Description | Part No. | Description |
| 45 | IC653 | 8-759-165-82 | IC PST600E | 8-759-167-83 ☛ | IC PST600EMT |

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**Sony Corporation**
**Mobile Electronics Company**

**English**
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# CDX-70/U70

SONY

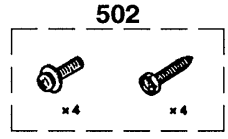
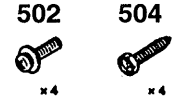
# SERVICE MANUAL

*US Model*
*CDX-U70*
*AEP Model*
*E Model*
*CDX-70*

## CORRECTION-2

**Correct your service manual as shown below.**

**____ (Under line) : indicates corrected portion.**

| Page | INCORRECT | | | CORRECT | | |
|---|---|---|---|---|---|---|
| | Ref. No. | Part No. | Description | Ref. No. | Part No. | Description |
| 49 | 502 | X-3366-634-1 | SCREW ASSY | 502 | 7-682-662-09 | SCREW +PSW 4X10 |
| | 504 | | | 504 | 3-302-126-01 | SCREW, TAPPING (DIA. 5X20) |
| |  | | |  | | |

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